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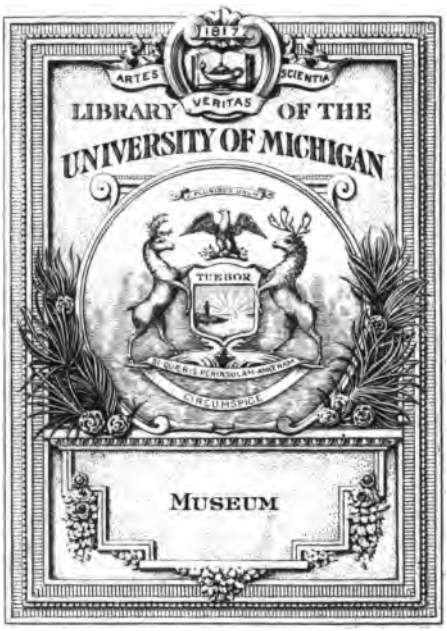
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DEPARTMENT OF THE INTERIOR

UNITED STATES GEOLOGICAL SURVEY

CHARLES D. WALCOTT, DIRECTOR

CATALOGUE AND INDEX

OF THE

PUBLICATIONS

OF THE

HAYDEN, KING, POWELL, AND WHEELER SURVEYS

NAMELY

GEOLOGICAL AND GEOGRAPHICAL SURVEY OF THE TERRITORIES
GEOLOGICAL EXPLORATION OF THE FORTIETH PARALLEL
GEOGRAPHICAL AND GEOLOGICAL SURVEYS OF THE ROCKY MOUNTAIN REGION
GEOGRAPHICAL SURVEYS WEST OF THE ONE HUNDREDTH MERIDIAN

BY

L. F. SCHMECKEBIER



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CONTENTS.

	Page.
Letter of transmittal	5
Introduction	7
Catalogue	9
United States Geological and Geographical Survey of the Territories (Hayden)	9
Annual reports	9
Final reports or monographs	20
Bulletins	21
Miscellaneous publications	31
Unclassified publications	32
Maps	35
Atlas of Colorado	35
General	35
Colorado	35
Idaho	36
Montana	36
Utah	36
Wyoming	37
United States Geological Exploration of the Fortieth Parallel (King)	38
Annual reports	38
Final reports or monographs	39
Atlas	39
Special publication	40
United States Geographical and Geological Survey of the Rocky Mountain Region (Powell)	41
Early reports by J. W. Powell	41
Final reports	42
Contributions to North American Ethnology	43
United States Geographical Surveys West of the One Hundredth Meridian (Wheeler)	44
Annual reports	44
Final reports or monographs	52
Unclassified publications	57
Maps	60
Atlas sheets	60
Topographic maps	60
Geologic maps	63
Land classification maps	64
Special maps	65
Index	67

LETTER OF TRANSMITTAL.

DEPARTMENT OF THE INTERIOR,
UNITED STATES GEOLOGICAL SURVEY,
Washington, D. C., November 11, 1903.

SIR: I transmit herewith the manuscript for a "Catalogue and Index of the Publications of the Hayden, King, Powell, and Wheeler Surveys," prepared by Mr. L. F. Schmeckebier, of the editorial division of the Geological Survey, and recommend that it be published in the Bulletin series of the Survey.

The publications of these early Government organizations constitute a storehouse of geographic, geologic, ethnologic, and archæologic information concerning the western portion of the United States; and though their usefulness may have diminished as a result of more detailed surveys and more precise work, I believe that this complete catalogue and consolidated index will be welcomed by many students, investigators, and librarians.

Very respectfully,

P. C. WARMAN,
Editor.

Hon. CHARLES D. WALCOTT,
Director United States Geological Survey.

INTRODUCTION.

The field work of the four great surveys whose publications are catalogued and indexed herein was done between 1867 and 1879, when the United States Geological Survey was organized. The office work, such as the preparation of maps and reports, continued until several years later.

As far as known to the writer, nó complete list of the publications of these surveys has been issued. The last edition of the catalogue of the Hayden survey was published in 1879, and the last edition of the catalogue of the Wheeler survey was issued in 1881. These catalogues are necessarily incomplete, as all the publications of these surveys had not been issued at the time the catalogues were printed.

The index is general in character, giving a bird's-eye view of the publications, and is not a compilation of details such as would be found in the indexes to the individual reports. For instance, it has been found impracticable to index generic and specific names in botany and zoology. The few specific or generic names appearing in the index are portions of the titles of papers. However, in order to give a general view of publications on zoology and botany, all entries referring to these subjects are subordinated under the headings: "Vertebrates;" "Vertebrates, fossil;" "Invertebrates;" "Invertebrates, fossil;" "Plants;" and "Plants, fossil." Likewise, all entries relating to ethnologic and archæologic subjects are included in the group "Ethnology and Archæology." All geographic entries are classified under names of States and Territories.

The United States Geological Survey has no copies of these publications for distribution.

For many suggestions at various stages of the work the writer is indebted to Mr. P. C. Warman.

L. F. S.

CATALOGUE AND INDEX OF THE PUBLICATIONS OF THE HAYDEN, KING, POWELL, AND WHEELER SURVEYS.

By L. F. SCHMECKEBIER.

CATALOGUE.

UNITED STATES GEOLOGICAL AND GEOGRAPHICAL SURVEY OF THE TERRITORIES (HAYDEN).

ANNUAL REPORTS.

1867.

[First Annual Report of the United States Geological Survey of the Territories, embracing Nebraska, by F. V. Hayden, U. S. geologist. Conducted under the authority of the Commissioner of the General Land Office. 1867.] Pages 124–177 of the Report of the Commissioner of the General Land Office for the year 1867. Washington: Government Printing Office. 1867.

[NOTE.—Reprinted in 1873 in "First, Second, and Third Annual Reports of the United States Geological Survey of the Territories." See page 10.]

1868.

[Second Annual Report of the United States Geological Survey of the Territories, embracing Wyoming, by F. V. Hayden, U. S. geologist. Conducted under the authority of the Commissioner of the General Land Office. 1868.] Pages 220–255 of the Report of the Commissioner of the General Land Office for the year 1868. Washington: Government Printing Office. 1868.

[NOTE.—Reprinted in 1873 in "First, Second, and Third Annual Reports of the United States Geological Survey of the Territories." See page 10.]

Report of F. V. Hayden on the geography of the Missouri Valley, pp. 220–229.
Geological explorations in Wyoming Territory [by F. V. Hayden], pp. 229–255.

1869.

[Third Annual] Preliminary Field Report of the United States Geological Survey of Colorado and New Mexico, conducted under the

authority of Hon. J. D. Cox, Secretary of the Interior, by F. V. Hayden, United States geologist. Washington: Government Printing Office. 1869.

8°. 155 pp.

Letter to the Secretary, pp. 3–5.

Geological report, by F. V. Hayden, pp. 7–99.

Mines and minerals of Colorado [and New Mexico], by Persifor Frazer, jr., pp. 101–130.

Agriculture of Colorado, by Cyrus Thomas, pp. 131–155.

[NOTE.—Reprinted in 1873 in First, Second, and Third Annual Reports of the Geological Survey of the Territories (see next entry).]

First, Second, and Third Annual Reports of the United States Geological Survey of the Territories for the years 1867, 1868, and 1869, under the Department of the Interior. Washington: Government Printing Office. 1873.

8°. 261 pp., 1 l.

Prefatory note, by F. V. Hayden, p. 3.

First Annual Report of the United States Geological Survey of the Territories, embracing Nebraska, by F. V. Hayden, U. S. geologist. Conducted under the authority of the Commissioner of the General Land Office. 1867. pp. 5–64.

[NOTE.—Reprinted from the "Report of the Commissioner of the General Land Office for the year 1867," pp. 124–177.]

Second Annual Report of the United States Geological Survey of the Territories. embracing Wyoming, by F. V. Hayden, U. S. geologist. Conducted under the authority of the Commissioner of the General Land Office. 1868. pp. 65–102.

[NOTE.—Reprinted from the "Report of the Commissioner of the General Land Office for the year 1868," pp. 220–255.]

Report of F. V. Hayden on the geography of the Missouri Valley, pp. 67–76.

Geological explorations in Wyoming Territory [by F. V. Hayden], pp. 76–102.

Third Annual Report of the United States Geological Survey of the Territories, embracing Colorado and New Mexico. Conducted under the authority of the Secretary of the Interior, by F. V. Hayden, U. S. geologist. pp. 103–251.

[NOTE.—Reprint of "Preliminary Field Report of the United States Geological Survey of Colorado and New Mexico."]

Letter to the Secretary, pp. 105–107.

Geological report, by F. V. Hayden, pp. 109–199.

Mines and minerals of Colorado [and New Mexico], by Persifor Frazer, jr., pp. 201–228.

Agriculture of Colorado, by Cyrus Thomas, pp. 229–251.

Index, pp. 253–261.

Table of contents.

1870.

[Fourth Annual] Preliminary Report of the United States Geological Survey of Wyoming and portions of contiguous Territories (being a second annual report of progress), conducted under the authority of

the Secretary of the Interior, by F. V. Hayden, United States geologist. Washington: Government Printing Office. 1871.

[NOTE.—Though called in the title a Second Annual Report, this is really the Fourth Annual Report, as the informal reports for 1867 and 1868 were considered the first and second of the series. There is another edition of this report, exactly identical, but with the date 1872.]

8°. 511 pp.

Letter to the Secretary, pp. 3–8.

Part I. Report of F. V. Hayden, pp. 9–81.

Part II. Geology of the Missouri Valley [by F. V. Hayden], pp. 83–188.

Part III. Report of Professor Cyrus Thomas, pp. 189–284.

Agriculture [in Wyoming and adjacent territory], pp. 189–264.

List and description of new species of Orthoptera, by Prof. Cyrus Thomas, pp. 265–284.

Part IV. Special reports, pp. 285–458.

I. Preliminary paleontological report, consisting of lists of fossils, with descriptions of some new types, etc., by F. B. Meek, pp. 287–318.

II. On the Tertiary coals of the West, by Jas. T. Hodge, geologist, pp. 318–329.

III. The ancient lakes of western America: Their deposits and drainage, by J. S. Newberry, LL. D., pp. 329–339.

IV. Report on the vertebrate fossils of the Tertiary formations of the West, by Prof. Joseph Leidy, pp. 340–370.

V. On the fossil plants of the Cretaceous and Tertiary formations of Kansas and Nebraska, by L. Lesquereux, pp. 370–385.

VI. On the fossil reptiles and fishes of the Cretaceous rocks of Kansas, by Prof. E. D. Cope, pp. 385–424.

VII. On the fishes of the Tertiary shales of Green River, Wyoming Territory, by Professor Edward D. Cope, pp. 425–432.

VIII. Recent reptiles and fishes. Report on the reptiles and fishes obtained by the naturalists of the expedition, by E. D. Cope, A. M., pp. 432–442.

IX. Material resources. Report on the industrial resources of western Kansas and eastern Colorado, by R. S. Elliott, pp. 442–458.

Part V. Catalogues, pp. 459–487.

I. Mammals and birds. A list of mammals and birds collected in Wyoming Territory, by Mr. H. D. Smith and Mr. James Stevenson, during the expedition of 1870, by James Stevenson, pp. 461–467.

II. Report on Mollusca, by S. R. Roberts, recorder conchological section, Academy Natural Sciences, Philadelphia, pp. 467–469.

III. Coleoptera. A list of Coleoptera collected by C. Thomas, in eastern Colorado and northeastern New Mexico, during the survey of 1869, by Dr. G. H. Horn, pp. 469–470.

IV. Hemiptera. A list of Hemiptera collected in eastern Colorado and northeastern New Mexico, by C. Thomas, during the expedition of 1869, by P. R. Uhler, Esq., pp. 471–472.

V. Catalogue of plants, by Thomas C. Porter, Lafayette College, Easton, Pennsylvania, pp. 472–483.

VI. Catalogue of plants. A list of plants collected by C. Thomas, in eastern Colorado and northeastern New Mexico, during the survey of 1869, by Dr. C. C. Parry, pp. 484–487.

Appendix. Meteorology, etc., by Mr. J. W. Beaman, pp. 488–501.

Index, pp. 503–511.

1871.

[Fifth Annual] Preliminary Report of the United States Geological Survey of Montana and portions of adjacent Territories; being a fifth annual report of progress. By F. V. Hayden, United States geologist. Conducted under authority of the Secretary of the Interior. Washington: Government Printing Office. 1872.

[NOTE.—This volume was also issued in quarto, only 30 copies being printed. The only annual issued in quarto.]

8°. vi, 3–538 pp., 2 l., 5 maps, 2 pls.

Letter to the Secretary, pp. 3–9.

Part I. Report of F. V. Hayden, pp. 11–204, 5 maps.

Part II. Agricultural resources of the Territories, by Professor Cyrus Thomas, pp. 205–279.

[Irrigation methods in Santa Clara Valley, California.] Letter of Professor G. N. Allen, pp. 269–271.

Short descriptions of some of the valleys of Nevada, by Mr. Haskell, of Reno, Nevada, pp. 271–273.

Experiments in cultivation on the plains along the line of the Kansas Pacific Railway, by R. S. Elliott, pp. 274–279.

Part III. Paleontology, pp. 281–377.

Fossil flora, by Leo Lesquereux, pp. 283.

I. Enumeration and description of the fossil plants from the specimens obtained in the explorations of Dr. F. V. Hayden, 1870 and 1871, pp. 283–303.

II. Remarks on the Cretaceous species described above, pp. 303–304.

III. Tertiary flora of North America, pp. 304–318.

On the geology and paleontology of the Cretaceous strata of Kansas, by Edward D. Cope, A. M., pp. 318–349.

On the vertebrate fossils of the Wahsatch strata, by Edward D. Cope, A. M., pp. 350–353.

On the fossil vertebrates of the early Tertiary formation of Wyoming, by Prof. Joseph Leidy, pp. 353–372.

Preliminary list of the fossils collected by Dr. Hayden's exploring expedition of 1871, in Utah and Wyoming Territories, with descriptions of a few new species, by F. B. Meek, pp. 373–377.

Part IV. Zoology and botany, pp. 379–498.

Notice of some worms collected during Professor Hayden's expedition to the Yellowstone River in the summer of 1871, by Prof. Joseph Leidy, of Philadelphia, pp. 381–382.

Coleoptera, by George H. Horn, M. D., Philadelphia, pp. 382–392.

Notices of the Hemiptera of the western Territories of the United States, chiefly from the surveys of Dr. F. V. Hayden, by P. R. Uhler, pp. 392–423.

Notes on the saltatorial Orthoptera of the Rocky Mountain regions, by Professor Cyrus Thomas, pp. 423–466, pls. i–ii.

List of species of butterflies collected by Campbell Carrington and William B. Logan, of the expedition, in 1871, by W. H. Edwards, pp. 466–467.

Report on the Recent reptiles and fishes of the survey, collected by Campbell Carrington and C. M. Dawes, by Edward D. Cope, A. M., pp. 467–476.

Catalogue of plants, by Prof. Thomas C. Porter, pp. 477–498.

Part V. Meteorology, by J. W. Beaman, pp. 499–524.

Index, pp. 525–538.

Supplement to the Fifth Annual Report of the United States Geological Survey of the Territories for 1871. F. V. Hayden, United States geologist in charge. Report on fossil flora. By Leo Lesquereux. Conducted under authority of the Secretary of the Interior. Washington: Government Printing Office. 1872.

8°. 22 pp.

An enumeration with descriptions of some Tertiary fossil plants, from specimens procured in the explorations of Dr. F. V. Hayden, in 1870, by Leo Lesquereux, pp. 5–22.

1872.

Sixth Annual Report of the United States Geological Survey of the Territories, embracing portions of Montana, Idaho, Wyoming, and Utah, being a report of progress of the explorations for the year 1872. By F. V. Hayden, United States geologist. Conducted under the authority of the Secretary of the Interior. Washington: Government Printing Office. 1873.

8°. xi, 844 pp., 12 pls., 5 maps, 4 leaves containing figs. 10, 14, 15, 34.

Letter to the Secretary, 1–10 pp.

Part I. 11–313 pp., 5 maps, 4 leaves containing figs. 10, 14, 15. 34.

Report of F. V. Hayden [on explorations in Yellowstone Valley and adjacent region], pp. 11–85, 3 maps, 3 leaves containing figs. 10, 14, 15.

Report of N. P. Langford on the resources of Snake River Valley, pp. 86–91.

Means of access to the Yellowstone National Park by railroad, by R. Hering, pp. 92–95.

Report of A. C. Peale, M. D., [on explorations in Colorado, Utah, and Wyoming], pp. 97–187, 1 leaf containing fig. 34.

Report of Frank H. Bradley, geologist of the Snake River division, pp. 189–271, 2 maps.

Physical geography and agricultural resources of Minnesota, Dakota, and Nebraska, by Cyrus Thomas, Ph. D., pp. 273–313.

Part II. Special reports on geology and paleontology, pp. 315–658, pls. 1–12.

Lignitic formation and fossil flora, by Leo Lesquereux, pp. 317–427.

Preliminary paleontological report, consisting of lists and descriptions of fossils, with remarks on the ages of the rocks in which they were found, etc., by F. B. Meek, paleontologist, pp. 429–518.

Report of a geological reconnaissance along the Union Pacific Railroad, by H. M. Bannister, M. D., pp. 519–541.

On the extinct vertebrata of the Eocene of Wyoming, observed by the expedition of 1872, with notes on the geology, by Edward D. Cope, A. M., pp. 543–649, pls. 1–6.

On remains of primitive art in the Bridger Basin of southern Wyoming, by Professor Joseph Leidy, pp. 651–654, pls. 7–12.

Ancient mounds of Dakota, by C. Thomas, Ph. D., pp. 655–658.

Part III. Special reports on zoology and botany, pp. 659–792.

Report on the mammals and birds of the expedition, by C. H. Merriam, pp. 661–715.

Coleoptera, by George H. Horn, M. D., Philadelphia, p. 717.

Notes on Orthoptera, by Cyrus Thomas, Ph. D., pp. 719–725.

Odonata from the Yellowstone, by Dr. H. Hagen, pp. 727–729.

Descriptions of new species of Mallophaga collected by C. H. Merriam while in the Government geological survey of the Rocky Mountains, Professor F. V. Hayden, United States geologist, by A. S. Packard, jr., M. D., pp. 731–734.

Description of new parasitic worms found in the brain and other parts of birds, by A. S. Packard, jr., M. D., pp. 735–737.

Description of new insects, by A. S. Packard, jr., M. D., pp. 739–741.

Insects inhabiting Great Salt Lake and other saline or alkaline lakes in the West, by A. S. Packard, jr., M. D., pp. 744–746.

Botany, by John M. Coulter, pp. 747–792.

Part IV. Report on astronomy and hypsometry, pp. 793–817.

Report on astronomy and hypsometry, by Henry Gannett, M. E., pp. 795–807.

Notes on the climate of Montana, by Mr. Granville Stuart, of Deer Lodge, Montana Territory, pp. 809–817.

Index, pp. 819–844.

1873.

[Seventh] Annual Report of the United States Geological and Geographical Survey of the Territories, embracing Colorado, being a report of progress of the exploration for the year 1873, by F. V. Hayden, United States geologist. Conducted under the authority of the Secretary of the Interior. Washington: Government Printing Office. 1874.

8°. xii, 718 pp., 54 pls. and maps, 44 leaves containing figures and other illustrations.

Letter to the Secretary, pp. 1–14.

Part I. Geology, mineralogy, and mining industry, pp. 15–361.

Report of F. V. Hayden, United States geologist, [on geology of central portion of Colorado], pp. 17–82, figs. 1–18, sections i–iv.

Report of Arch. R. Marvine, assistant geologist directing the Middle Park division, pp. 83–192, pls. i–iii, figs. 1–17 (fig. 4 misnamed pl. 4; fig. 6 misnamed fig. 4; fig. 17 misnamed fig. 16).

Report of A. C. Peale, M. D., geologist of the South Park division, pp. 193–273, pls. 1–20.

Report of F. M. Endlich, S. N. D. [geologist of the San Luis division], pp. 275–361, pls. A, B, viii, x, xii–xv, figs. 1–13; illustrations A and B, and 3 not numbered.

Part II. Special reports on paleontology, pp. 365–533, pls. i–viii.

The Lignitic formation and its fossil flora, by Leo Lesquereux, pp. 365–425.

Report on the vertebrate paleontology of Colorado, by Edward D. Cope, A. M., pp. 427–533, pls. 1–8.

Part III. Zoology, pp. 535–623, pls. i–vi.

Report of Lieut. W. L. Carpenter on the collections made by him in 1873, while connected with the United States Geological Survey, pp. 537–538.

Destruction of pine-timber in the Rocky Mountains, by Lieut. W. L. Carpenter, U. S. A., pp. 538–539.

Report on the alpine insect-fauna of Colorado, by Lieut. W. L. Carpenter, U. S. A., pp. 539–542.

List of species of butterflies collected by Lieut. W. L. Carpenter, U. S. A., for the United States geological survey of Colorado, 1873, by W. H. Edwards, p. 542.

On the geographical distribution of the moths of Colorado, by A. S. Packard, jr., M. D., pp. 543–560.

Report on the Diptera collected by Lieut. W. L. Carpenter in Colorado during the summer of 1873, by C. R. Osten Sacken, pp. 561–566.

Notice on the galls collected by Lieut. W. L. Carpenter, by C. R. Osten Sacken, p. 567.

List of species of Coleoptera, collected by Lieut. W. L. Carpenter, United States Army, for the United States geological survey of Colorado, 1873, pp. 567–571.

Report on the Pseudo-Neuroptera and Neuroptera collected by Lieut. W. L. Carpenter in 1873 in Colorado, by Dr. H. A. Hagen, pp. 571–606.

Report on the myriopods collected by Lieut. W. L. Carpenter, in 1873, in Colorado, by A. S. Packard, jr., M. D., p. 607.

Report on the amphipod Crustaceans, by S. I. Smith, pp. 608–611, pls. i–ii.

Description of a lernæan Crustacean (Achthernes carpenteri) obtained by Lieut. W. L. Carpenter, in 1873, in Colorado, by A. S. Packard, jr., M. D., p. 612.

Synopsis of the fresh-water phyllopod Crustacea of North America, by A. S. Packard, jr., M. D., pp. 613–622, pls. i–iv.

List of leeches collected by Hayden's expedition, 1873, by A. E. Verrill, p. 623.

List of terrestrial mollusks collected by Lieut. W. L. Carpenter, U. S. A., for the United States geological survey of Colorado, 1873, by William G. Binney, p. 623.

Part IV. Geography and topography, pp. 625–681, 3 maps.

Sketch of the methods of survey in the geographical department, by James T. Gardner, geographer, pp. 627–628, 1 map.

The elevations of certain datum-points on the Great Lakes and rivers and in the Rocky Mountains, by James T. Gardner, geographer, pp. 629–659, 1 map.

Topographical report of Middle Park division, 1873, by S. B. Ladd, M. E., pp. 661–669.

Geographical report of Henry Gannett, M. E., [on central Colorado], pp. 670–681, 1 map.

Appendix, pp. 683–691, 1 map.

Gold Hill mining region, its position and general geology, by Arch. R. Marvine, pp. 685–687, 1 map.

The telluride ores of the Red Cloud and Cold Spring mines, Gold Hill, by B. Silliman, pp. 689–691.

Index, pp. 693–718.

1874.

[Eighth] Annual Report of the United States Geological and Geographical Survey of the Territories, embracing Colorado and parts of adjacent Territories; being a report of progress of the exploration for the year 1874. By F. V. Hayden, United States geologist. Conducted under the authority of the Secretary of the Interior. Washington: Government Printing Office. 1876.

8°. ix, 515 pp. 82 leaves containing illustrations, 8 leaves containing plate descriptions.

Letter to the Secretary, pp. 1–17.

[Geology, mineralogy and mining industry], pp. 19–269.

[Report of F. V. Hayden on Lignitic group, geology of eastern base of Front Range, and geography and geology of Elk Mountains], pp. 19–71; 34 leaves.

Report on the geology of the northwestern portion of the Elk Range, by W. H. Holmes, pp. 59–71, 12 leaves containing illustrations.

Report of A. C. Peale, M. D., geologist of Middle division, pp. 73–180, 20 leaves containing illustrations.

Report of F. M. Endlich, S. N. D., 1874 [geologist of San Juan division], pp. 181–240, figs. 1–3, sections i–viii.

Report of Samuel Aughey, Ph. D., The superficial deposits of Nebraska, pp. 241–269.

Paleontology. Report of Leo Lesquereux, pp. 271–365.

On the Tertiary flora of the North American lignitic, considered as evidence of the age of the formation, pp. 275–315.

A review of the Cretaceous flora of North America, pp. 316–365, pls. i–viii.

[Archæology], pp. 367–381.

Report of W. H. Jackson on ancient ruins in southwestern Colorado, pp. 367–381, pls. i–viii.

Zoology. Report of Ernest Ingersoll on the natural history of the United States Geological and Geographical Survey of the Territories, 1874, pp. 383–410.

Topography and geography. Reports of Henry Gannett, S. B. Ladd, and A. D. Wilson, pp. 411–496, 1 map.

Geographical report of Henry Gannett, M. E., topographer directing Middle division, pp. 413–433, 1 map.

Topographical report of Northern division, 1874; by Story B. Ladd, M. E., pp. 435–442.

Means of communication between Denver and San Juan mines, by A. D. Wilson, topographer directing, pp. 443–449.

Report on the topography of the San Juan country, by Franklin Rhoda, assistant topographer, pp. 451–496.

Index, pp. 497–515.

1875.

Ninth Annual Report of the United States Geological and Geographical Survey of the Territories, embracing Colorado and parts of adjacent Territories; being a report of progress of the exploration for the year 1875. By F. V. Hayden, United States geologist. Conducted under the authority of the Secretary of the Interior. Washington: Government Printing Office. 1877.

8°. vii, 827 pp., 10 ll. unpaged, 75 pls. and maps.

Report of F. V. Hayden, United States geologist in charge. Letter to the Secretary. pp. 1–28.

Part I. Geology, pp. 29–294, pls. i–xxii, xxiv, xxvi–xlix.

Report of A. C. Peale, M. D., geologist of the Grand River division, 1875, on the Grand River district, pp. 31–101, pls. i–viii.

Report of F. M. Endlich, S. N. D., geologist of the Southeastern division, 1875, on the Southeastern district, pp. 103–235, pls. ix–xxii, xxiv, xxvi–xxxiii.

Report of William H. Holmes, geologist of the San Juan division, 1875, on the San Juan district, pp. 237–276, pls. xxxiv–xlix.

Geological report of B. F. Mudge. Notes on the Tertiary and Cretaceous periods of Kansas, pp. 277–294.

Part II. Geography and topography. pp. 295–440, pls. l–lxi, 2 maps.
Report of A. D. Wilson, topographer of the Southeastern division, 1875, on the Southeastern district, pp. 297–333.
Topographical report on the Southeastern district, by Franklin Rhoda, assistant topographer, pp. 302–333, pl. l.
Report of Henry Gannett, M. E., topographer of the Grand River division, 1875, on the Grand River district, pp. 335–350, pls. li–lii.
Report of George B. Chittenden, topographer of the San Juan division, 1875, on the San Juan district, pp. 351–368, pls. liii–lvi.
Report of Gustavus R. Bechler, topographer, 1873, '74, '75, on the Middle and South Parks, Colorado, and adjacent country, pp. 369–440, pls. lvii–lxi, 2 maps.
Part III. Zoology, pp. 441–815, pls. lxii–lxx, 5 maps.
History of the American bison, Bison americanus, by J. A. Allen, pp. 443–587, 1 l. errata.
Report on the Rocky Mountain locust and other insects now injuring or likely to injure field and garden crops in the western States and Territories, by A. S. Packard, jr., M. D., pp. 589–809, 9 unpaged leaves, pls. lxii–lxx.
Appendix.
List of Coleoptera collected in 1875, in Colorado and Utah, by A. S. Packard, jr., M. D., pp. 811–815.
Index, pp. 817–827.

1876.

Tenth Annual Report of the United States Geological and Geograpical Survey of the Territories, embracing Colorado and parts of adjacent Territories, being a report of progress of the exploration for the year 1876. By F. V. Hayden, United States geologist. Conducted under the authority of the Secretary of the Interior. Washington: Government Printing Office. 1878.

8°. xxix, 546 pp., 79 pls., 3 maps.
Letter to the Secretary, pp. xiii–xxix.
Part I. Geology, pp. 1–272, pls. i–xvi.
Report of C. A. White, M. D., on the geology of a portion of northwestern Colorado, pp. 3–60, pls. i–ii.
Report of F. M. Endlich, S. N. D., geologist of the White River division, on the geology of the White River district, pp. 61–131, pls. iii–vii.
Mineralogical report of F. M. Endlich, S. N. D.: Catalogue of minerals found in Colorado, pp. 133–159.
Report of A. C. Peale, M. D., geologist of the Grand River division, 1876, on the Grand River district, pp. 161–185, pls. viii–xii.
Report of William H. Holmes, on the geology of the Sierra Abajo and West San Miguel Mountains, pp. 187–195, pls. xiii–xvi.
Report of F. M. Endlich, S. N. D., on the erupted rocks of Colorado, pp. 197–272.
Part II. Topography, pp. 273–378, pls. xvii–xxix.
Report of A. D. Wilson, chief topographer, on the primary triangulation of Colorado, pp. 275–309, pls. xvii–xxi.
Report of Henry Gannett, M. E., on the arable and pasture lands of Colorado, pp. 311–347.

Report of George B. Chittenden, C. E., topographer of the White River division, 1876, on the White River district, pp. 349–357.

Report of Gustavus R. Bechler, topographer of the Yampa division, 1876, on the Yampa River district, pp. 359–378, pls. xxii–xxix.

Part III. Archæology and ethnology, pp. 379–478, pls. xxx–lxxix.

Report of William H. Holmes on the ancient ruins of southwestern Colorado, examined during the summers of 1875 and 1876, pp. 381–408, pls. xxx–xlvi.

Report of William H. Jackson on the ancient ruins examined in 1875 and 1877, pp. 409–450, pls. xlvii–lxxiv.

Report of W. J. Hoffman, M. D., on the Chaco cranium, pp. 451–457, pls. lxxv–lxxvi.

Report of W. J. Hoffman, M. D.: Miscellaneous ethnographic observations on Indians inhabiting Nevada, California, and Arizona, pp. 459–478, pls. lxxvii–lxxix.

Part IV. Paleontology and zoology, pp. 479–531.

Report of Leo Lesquereux: Remarks on specimens of Cretaceous and Tertiary plants secured by the Survey in 1877, with a list of the species hitherto described, pp. 481–520.

Report of A. S. Packard, jr.: Insects affecting the cranberry, with remarks on other injurious insects, pp. 521–531.

Index, pp. 533–546.

[Geologic, economic, and drainage maps of Colorado west of one hundred and second meridian, at end.]

1877.

Eleventh Annual Report of United States Geological and Geographical Survey of the Territories embracing Idaho and Wyoming, being a report of progress of the exploration for the year 1877. By F. V. Hayden, United States geologist. Conducted under the authority of the Secretary of the Interior. Washington: Government Printing Office. 1879.

8°. xxviii, 720 pp., 10 ll., 89 pls. and maps.

Letter to the Secretary, pp. ix–xxviii.

Part I. Geology and paleontology, pp. 1–646, pls. i–vi, 1–10, vii–lxvi, lxvi a, lxvii–lxxv, lxxv a, lxxvi.

Report of F. M. Endlich, S. N. D., on the geology of the Sweetwater district, pp. 3–158, pls. i–vi.

Report of C. A. White, M. D., on the paleontological field work for the season of 1877, pp. 159–272.

Contributions to invertebrate paleontology, No. 1: Cretaceous fossils of the western States and Territories, by C. A. White, M. D., pp. 273–319, pls. 1–10.

Report of Orestes St. John, geologist of the Teton division, on the geological field work of the Teton division, pp. 321–508, pls. vii–xlvi.

Report of A. C. Peale, M. D., geologist of the Green River division, on the geology of the Green River district, pp. 509–646, pls. xlvii–lxvi, lxvi a, lxvii–lxxv, lxxv a, lxxvi.

Part II. Topography, pp. 647–710, 1 map.

Report of A. D. Wilson, chief topographer, on the primary triangulation of 1877 and 1878, pp. 649–671, 1 map.

Report of Henry Gannett, M. E., topographer, pp. 673–710.

Index, pp. 711–720.

1878.

Twelfth Annual Report of the United States Geological and Geographical Survey of the Territories: A report of progress of the exploration in Wyoming and Idaho for the year 1878. In two parts. Part I [Part II]. By F. V. Hayden, United States geologist. Conducted under the authority of the Secretary of the Interior. Washington: Government Printing Office. 1883.

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Part I. Geology, paleontology, and zoology, xviii, 809 pp., 32 ll., 155 pls. and maps.

Letter to the Secretary, pp. xiii–xviii.

Part [Section] I. Geology and paleontology, pp. 1–293, 32 ll., pls. 11–42, i–xlix, 2 maps, 7 unnumbered illustrations.

Contributions to invertebrate paleontology, No. 2: Cretaceous fossils of the western States and Territories, by C. A. White, M. D., pp. 3–39, pls. 11–18.

Contributions to invertebrate paleontology, No. 3: Certain Tertiary Mollusca from Colorado, Utah, and Wyoming, by C. A. White, M. D., pp. 41–48, pl. 19.

Contributions to invertebrate paleontology No. 4: Fossils of the Laramie group, by C. A. White, M. D., pp. 49–103, pls. 20–30.

Contributions to invertebrate paleontology No. 5; Triassic fossils of southeastern Idaho, by C. A. White, M. D., pp. 105–118, pls. 31–32.

Contributions to invertebrate paleontology No. 6; Certain Carboniferous fossils from the western States and Territories, by C. A. White, M. D., pp. 119–141, pls. 33–36.

Contributions to invertebrate paleontology No. 7; Jurassic fossils from the Western Territories, by C. A. White, M. D., pp. 143–153, pls. 37–38.

Contributions to invertebrate paleontology No. 8; Fossils from the Carboniferous rocks of the Interior States, by C. A. White, M. D., pp. 155–171, pls. 39–42.

Report of Orestes St. John, on the geology of the Wind River district, pp. 173–269, pls. i–xlix, 1 map, and 6 unnumbered illustrations.

The Tertiary Lake basin at Florissant, Colo., between South and Hayden parks, by Samuel H. Scudder, pp. 271–293, map.

Section II. Zoology, pp. 295–806, pls. i–xxxix, i–xxiv, 1 map, 1 illustration unnumbered.

A monograph of the phyllopod Crustacea of North America, with remarks on the order Phyllocarida, by A. S. Packard, jr., pp. 295–592, pls. i–xxxix, 1 map.

Appendix A.—On Artemia fertilis Verrill, from Great Salt Lake, Utah Territory, by Prof. C. Th. von Siebold, of Munich. Translated by Dr. Phil. Carl F. Gissler, of Providence, R. I., pp. 459–463.

B.—Prof. Carl Theodor von Siebold on parthenogenesis in Artemia salina. Abstract by Dr. C. F. Gissler, pp. 463–466.

C.—On the relation of Artemia salina Milne-Edwards to Artemia muehlhausenii Milne-Edwards and to the genus Branchipus Schaefer, by W. J. Schmankewitsch, pp. 466–473.

D.—Contribution to a knowledge of the influence of external conditions of life upon the organization of animals, by Wladimir Schmankewitsch, pp. 473–514.

Osteology of Speotyto cunicularia hypogæa, by R. W. Shufeldt, M. D., captain, Medical Department, United States Army, pp. 593–626, pls. i–iii.

Osteology of Eremophila alpestris, by R. W. Shufeldt, M. D., captain, Medical Department, United States Army, pp. 627–652, pl. iv.

Osteology of the North American Tetraonidæ, by R. W. Shufeldt, M. D., captain, Medical Department, United States Army, pp. 653–718, pls. v–xiii.

Osteology of Lanius ludovicianus excubitorides, by R. W. Shufeldt, M. D., captain, Medical Department, United States Army, pp. 719–725, pl. xiv.

Osteology of the Cathartidæ, by R. W. Shufeldt, M. D., captain, Medical Department, United States Army, pp. 727–806, pls. xv–xxiv, 1 unnumbered illustration.

Index, pp. 807–809.

Part II. Yellowstone National Park. xxv, 503 pp., 2 ll., 151 pls. and other illustrations.

Letter to the Secretary, pp. xvii–xxiv.

Section I. Geology, pp. xxv, 1–62, 2 ll., pls. A, B, i–xxxii, and map.

Report on the geology of the Yellowstone National Park, by W. H. Holmes, pp. 1–62, pls. A, B, i–xxxii, and map.

Section II. Thermal springs, pp. 63–454, pls. C, D, i, ia, ii–iv, v–vd, vi–vid, vii–xi, xia, xii–xiii, xiiia, xiv, xiva, xv–xviii, xix, xixa, xx–xxxii, xxxiia, xxxiii, xxxiiia, xxxiv–xl, xla, xlb, xli, xlia, xlii–xlv, figs. 1–32, 11 maps.

The thermal springs of Yellowstone National Park, by A. C. Peale, M. D., pp. 65–454, pls. C, D, i, ia, ii–iv, v, vd, vi–vid, vii–xi, xia, xii–xiii, xiiia, xxiv–xl, xla, xlb, xli, xlia, xlii–xlv, figs. 1–32, 11 maps.

Section III. Topography, pp. 455–490, 8 pls.

Geographical field work of the Yellowstone Park division, by Henry Gannett, E. M., pp. 455–490, 8 pls.

Index, pp. 491–503.

FINAL REPORTS OR MONOGRAPHS.

Department of the Interior. Report of the United States Geological Survey of the Territories. F. V. Hayden, United States geologist-in-charge. In five volumes[a] [Volume II–III, V–XIII] Washington: Government Printing Office. 1873 [–1890]

4°. 12 vols.

I. Fossil vertebrates. Part I.[b] Contributions to the extinct vertebrate fauna of the western Territories, by Prof. Joseph Leidy. 1873. 358 pp., 37 ll., 37 pls.

II. The vertebrata of the Cretaceous formations of the West, by E. D. Cope. 1875. 302 pp., 58 ll., 57 pls.

III. The vertebrata of the Tertiary formations of the West. Book I.[b] By Edward D. Cope, member of the National Academy of Sciences. 1883. xxxiv, 1009 pp., 136 ll., 134 pls.

[a] When the series was commenced it was intended to complete it in five volumes.

[b] No other part.

IV. Not published.

V. Zoology and Botany. Part I.[a] Synopsis of the Acrididæ of North America, by Cyrus Thomas, Ph. D. 1873. x, 262 pp., 1 pl.

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8°. xiii, 28, 77, 499 pp., 26 ll., 25 pls., 2 maps.

[First series], No. 1. 1874. 28 pp., 1 l.

List of members and collaborators of the survey for 1873, pp. 3–4.

List of the publications of the Geological Survey of the Territories, pp. 5–6.

Report on the stratigraphy and Pliocene vertebrate paleontology of northern Colorado, by Edward D. Cope, A. M., pp. 7–28.

[First series], No. 2. April 9, 1874. 77 pp., 2 ll.

Review of the vertebrata of the Cretaceous period found west of the Mississippi River, by Edward D. Cope, A. M., pp. 3–48.

Supplementary notices of fishes from the freshwater Tertiaries of the Rocky Mountains [by E. D. Cope], pp. 49–51.

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On the cranial and dental characters of Mephitinæ, with description of Mephitis frontata, n. sp. foss., by Dr. Elliott Coues, U. S. A., pp. 7–15.

Ancient ruins in southwestern Colorado, by W. H. Jackson, pp. 17–38, pls. i–iii.

Note on some fossils from near the eastern base of the Rocky Mountains, west of Greeley and Evans, Colorado, and others from about two hundred miles farther eastward, with descriptions of a few new species, by F. B. Meek, palæontologist, pp. 39–47.

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Report on the natural history of the United States Geological and Geographical Survey of the Territories, 1874, by Ernest Ingersoll, zoölogist, pp. 121–124.

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Report on the topography of the San Juan country, by Franklin Rhoda, assistant topographer, pp. 165–209, 2 illustrations.

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Some account, critical, descriptive, and historical, of Zapus hudsonius, by Dr. Elliott Coues, U. S. Army, pp. 253–262.

On the breeding-habits, nest, and eggs of the white-tailed ptarmigan (Lagopus leucurus), by Dr. Elliott Coues, U. S. Army, pp. 263–266.

List of Hemiptera of the region west of the Mississippi River, including those collected during the Hayden explorations of 1873, by P. R. Uhler, pp. 267–361, pls. 19–21.

On some new species of fossil plants from the Lignitic formations, [by Leo Lesquereux], pp. 363–389.

New species of fossil plants from the Cretaceous formation of the Dakota group, [by Leo Lesquereux], pp. 391–400.

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Studies of the American Falconidæ, by Robert Ridgway, pp. 451–473, 22–26 pls.

Index. 475–499 pp.

Department of the Interior. Bulletin of the United States Geological and Geographical Survey of the Territories. F. V. Hayden, U. S. geologist-in-charge. 1876. Volume II. Washington: Government Printing Office. 1876.

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The human remains found among the ancient ruins of southwestern Colorado and northern New Mexico, by Dr. Emil Bessels, pp. 47–63, pls. 23–29.

Ancient art in northwestern Colorado, by Edwin A. Barber, pp. 65–66.

Bead ornaments employed by the ancient tribes of Utah and Arizona, by E. A. Barber, pp. 67–69.

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Fossil Coleoptera from the Rocky Mountain Tertiaries, by Samuel H. Scudder, pp. 77–87.

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Notes in relation to the accompanying contour-map of the United States, by Henry Gannett, M. E., pp. 223–226, 1 map.

The flora of southwestern Colorado, by T. S. Brandegee, pp. 227–248.

Brief synopsis of North American earwigs, with an appendix on the fossil species, by Samuel H. Scudder, pp. 249–260.

List of the Orthoptera collected by Dr. A. S. Packard, in Colorado and the neighboring Territories, during the summer of 1875, by Samuel H. Scudder, pp. 261–267.

Notice of a small collection of butterflies, made by Dr. A. S. Packard, in Colorado and Utah, in 1875, by Samuel H. Scudder, pp. 269–270.

Notes on the grammar of the Nez Percés language, by Rev. George Ainslie, pp. 271–277.

No. 4. August 4, 1876. 279–378 pp., 8 ll., 42–49 pls., i–vi.

Notes on the geology of northeastern New Mexico, by O. St. John, pp. 279–308, pls. 42–49.

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Sexual, individual, and geographical variation in Leucosticte tephrocotis, by J. A. Allen, pp. 345–350.

Descriptions and illustrations of fossils from Vancouver's and Sucia islands, and other northwestern localities, by F. B. Meek, palæontologist, pp. 351–374, pls. i–vi.

Note on the new genus Uintacrinus, Grinnell, by F. B. Meek, pp. 375–378.

Index. 379–392 pp.

Department of the Interior. Bulletin of the United States Geological and Geographical Survey of the Territories. F. V. Hayden, U. S. geologist-in-charge. 1877. Volume III. Washington: Government Printing Office. 1877.

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Art. II. Researches in the kjökkenmöddings and graves of a former population of the coast of Oregon, by Paul Schumacher, pp. 27–35, pls. 2–8.

Art. III. Researches in the kjökkenmöddings and graves of a former population of the Santa Barbara Islands and the adjacent mainland, by Paul Schumacher, pp. 37–56, pls. 9–22.

Art. IV. The Twana Indians of the Skokomish Reservation in Washington Territory, by Rev. M. Eells, missionary among these Indians, pp. 57–114, pls. 23–25.

Art. V. Notes on a collection of noctuid moths made in Colorado in 1875, by Dr. A. S. Packard, jr., by Aug. R. Grote, pp. 115–120.

Art. VI. The Tineina of Colorado, by V. T. Chambers, pp. 121–142.

Art. VII. Notes on a collection of tineid moths made in Colorado in 1875 by A. S. Packard, jr., M. D., by V. T. Chambers, pp. 143–145.

Art. VIII. On the distribution of Tineina in Colorado, by V. T. Chambers, pp. 147–150.

Art. IX. New Entomostraca from Colorado, by V. T. Chambers, pp. 151–155.

Art. X. On a new cave fauna in Utah, by A. S. Packard, jr., M. D., pp. 157–169.

Art. XI. Descriptions of new phyllopod Crustacea from the West, by A. S. Packard, jr., M. D., pp. 171–179.

Art. XII. Notes on some artesian borings along the line of the Union Pacific Railroad in Wyoming Territory, by F. V. Hayden, pp. 181–185, pl. 26.

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Art. XIV. Report upon the insects collected by P. R. Uhler during the explorations of 1875, including monographs of the families Cydnidæ and Saldæ, and the Hemiptera collected by A. S. Packard, jr., M. D., by P. R. Uhler, pp. 355–475, pls. 27–28. [Continued on p. 765.]

Art. XV. Descriptions of the Araneæ collected in Colorado in 1875 by A. S. Packard, jr., M. D., by T. Thorell, Ph. D., junior professor of zoology in the Universty of Upsala, Sweden, pp. 477–529.

No. 3. May 15, 1877. 531–737 pp., 1 l., 29–39 pls.

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Art. XVII. Methods of making stone weapons, by Paul Schumacher, pp. 547–549, pl. 29.

Art. XVIII. On a peculiar type of eruptive mountains in Colorado, by A. C. Peale, pp. 551–564.

Art. XIX. Report on the geology of the region of the Judith River, Montana, and on vertebrate fossils obtained on or near the Missouri River, by E. D. Cope, pp. 565–597, pls. 30–34.

Art. XX. Paleontological papers No. 1.—Descriptions of Unionidæ and Physidæ, collected by Professor E. D. Cope from the Judith River group of Montana Territory during the summer of 1876, by C. A. White, M. D., pp. 599–602.

Art. XXI. Paleontological papers No. 2.—Descriptions of new species of Uniones and a new genus of fresh-water Gasteropoda from the Tertiary strata of Wyoming and Utah, by C. A. White, M. D., pp. 603–606.

Art. XXII. Paleontological papers No. 3.—Catalogue of the invertebrate fossils hitherto published from the fresh- and brackish-water deposits of the western portion of North America, by C. A. White, M. D., pp. 607–614.

Art. XXIII. Paleontological papers No. 4.—Comparison of the North American Mesozoic and Cenozoic Unionidæ and associated mollusks with living species, by C. A. White, M. D., pp. 613–624.

Art. XXIV. Paleontological papers No. 5.—Remarks on the paleontological characteristics of the Cenozoic and Mesozoic groups as developed in the Green River region, by C. A. White, M. D., pp. 625–629.

Art. XXV. Precursory notes on American insectivorous mammals, with descriptions of new species, by Elliott Coues, captain and assistant surgeon, U. S. A., secretary and naturalist of the survey, pp. 631–653.

Art. XXVI. Notes on the ornithology of the region about the source of the Red River of Texas, from observations made during the exploration conducted by Lieut. E. H. Ruffner, Corps of Engineers, U. S. A., by C. A. H. McCauley, lieutenant, Third United States Artillery, annotated by Dr. Elliott Coues, U. S. A., pp. 655–695.

Art. XXVII. Catalogue of the land and fresh-water shells of Nebraska, by Samuel Aughey, Ph. D., pp. 697–704.

Art. XXVIII. Notes on the geographical work of the United States Geological and Geographical Survey of the Territories, by A. D. Wilson, chief topographer, pp. 705–737, pls. 35–39, 1 map.

No. 4. August 15, 1877. 739–856 pp., 1 l.

Art. XXIX. The first discovered traces of fossil insects in the American Tertiaries, by Samuel H. Scudder, pp. 741–762.

Art. XXX. Description of two species of Carabidæ found in the interglacial deposits of Scarboro Heights, near Toronto, Canada, by Samuel H. Scudder, pp. 763–764.

Art. XXXI. Report upon the insects collected by P. R. Uhler during the explorations of 1875, including monographs of the families Cydnidæ and Saldæ and the Hemiptera collected by A. S. Packard, jr., M. D., by P. R. Uhler, pp. 765–801. [Continued from p. 475.]

Art. XXXII. Description of Cambarus couesi, a new species of crawfish from Dakota, by Thos. H. Streets, M. D., U. S. N., pp. 803–804.

Art. XXXIII. On a carnivorous dinosaurian from the Dakota beds of Colorado, by E. D. Cope, pp. 805–806.

Art. XXXIV. A contribution to the knowledge of the ichthyological fauna of the Green River shales, by E. D. Cope, pp. 807–819.

Art. XXXV. On the genus Erisichte, by E. D. Cope, pp. 821–823.

Index. 825–856 pp.

Department of the Interior. Bulletin of the United States Geological and Geographical Survey of the Territories. F. V. Hayden, U. S. geologist-in-charge. 1878. Volume IV. Washington: Government Printing Office. 1878.

8°. vii, 908 pp., 8 ll., 1 pl.

No. 1. February 5, 1878. 1–311 pp., 2 ll.

Art. I. Notes on the ornithology of the lower Rio Grande of Texas, from observations made during the season of 1877, by George B. Sennett, of Erie, Pa., edited, with annotations, by Dr. Elliott Coues, U. S. A., pp. 1–66.

Art. II. Descriptions of fishes from the Cretaceous and Tertiary deposits west of the Mississippi River, by E. D. Cope, pp. 67–77.

Art. III. Descriptions of new Tineina from Texas, and others from more northern localities, by V. T. Chambers, pp. 79–106.

Art. IV. Tineina and their food plants, by V. T. Chambers, pp. 107–123.

Art. V. Index to the described Tineina of the United States and Canada, by V. T. Chambers, pp. 125–167.

Art. VI. Descriptions of Noctuidæ, chiefly from California, by A. R. Grote, pp. 169–187.

Art. VII. A synopsis of the North American species of the genus Alpheus, by J. S. Kingsley, pp. 189–199.

Art. VIII. Notes on the mammals of Fort Sisseton, Dakota, by C. E. McChesney, M. D., Acting Assistant Surgeon, U. S. A., annotated by Dr. Elliott Coues, U. S. A., pp. 201–218.

Art. IX. Studies of the American Herodiones. Part I. Synopsis of the American genera of Ardeidæ and Ciconiidæ; including description of three new genera and a monograph of the American species of the genus Ardea, Linn., by Robert Ridgway, pp. 219–251.

Art. X. Notice of the butterflies collected by Dr. Edward Palmer in the arid regions of southern Utah and northern Arizona during the summer of 1877, by Samuel H. Scudder, pp. 253–258.

Art. XI. Notes on the herpetology of Dakota and Montana, by Drs. Elliott Coues and H. C. Yarrow, pp. 259–291.

Art. XII. On consolidation of the hoofs in the Virginian deer, by Dr. Elliott Coues, U. S. A., pp. 293–294.

Art. XIII. On a breed of solid-hoofed pigs apparently established in Texas, by Dr. Elliott Coues, U. S. A., pp. 295–297.

Art. XIV. Professor Owen on the Pythonomorpha, by E. D. Cope, pp. 299–311.

No. 2. May 3, 1878. 313–543 pp., 2 ll., pl. 1.

Art. XV. The geographical distribution of the Mammalia, considered in relation to the principal ontological regions of the earth, and the laws that govern the distribution of animal life, by Joel Asaph Allen, pp. 313–377.

Art. XVI. Descriptions of new extinct vertebrata from the upper Tertiary and Dakota formations, by E. D. Cope, pp. 379–396.

Art. XVII. Notes on a collection of fishes from the Rio Grande, at Brownsville, Texas, by David S. Jordan, M. D., pp. 397–406. [Continued on p. 663.]

Art. XVIII. A catalogue of the fishes of the fresh waters of North America, by David S. Jordan, M. D., pp. 405–442.

Art. XIX. Description of a fossil passerine bird from the insect-bearing shales of Colorado, by J. A. Allen, pp. 443–445, pl. 1.

Art. XX. The Coleoptera of the alpine regions of the Rocky Mountains, by John L. Le Conte, M. D., pp. 447–480.

Art. XXI. On the Orthoptera collected by Dr. Elliott Coues, U. S. A., in Dakota and Montana during 1873–74, by Prof. Cyrus Thomas, pp. 481–501.

Art. XXII. On the Hemiptera collected by Dr. Elliott Coues, U. S. A., in Dakota and Montana during 1873–74, by P. R. Uhler, pp. 503–512.

Art. XXIII. On the Lepidoptera collected by Dr. Elliott Coues, U. S. A., in Montana, during 1874, by W. H. Edwards, pp. 513–517.

Art. XXIV. An account of some insects of unusual interest from the Tertiary rocks of Colorado and Wyoming, by Samuel H. Scudder, pp. 519–543.

No. 3. July 29, 1878. 545–745 pp., 2 ll.

Art. XXV. Field notes on birds observed in Dakota and Montana along the forty-ninth parallel during the seasons of 1873 and 1874, by Dr. Elliott Coues, U. S. A., late surgeon and naturalist, U. S. Northern Boundary Commission, pp. 545–661.

Art. XXVI. Notes on a collection of fishes from the Rio Grande, at Brownsville, Texas, continued [from p. 406], by D. S. Jordan, M. D., pp. 663–667.

Art. XXVII. Preliminary studies on the North American Pyralidæ, by A. R. Grote, pp. 669–705.

Art. XXVIII. Paleontological papers No. 6: Descriptions of new species of invertebrate fossils from the Laramie group, by C. A. White, M. D., pp. 707–719.

Art. XXIX. Paleontological papers No. 7: On the distribution of molluscan species in the Laramie group, by C. A. White, M. D., pp. 721–724.

Art. XXX. On some dark shale recently discovered below the Devonian limestones, at Independence, Iowa; with a notice of its fossils and description of new species, by S. Calvin, professor of geology, State University of Iowa, pp. 725–730.

Art. XXXI. On the mineralogy of Nevada, by W. J. Hoffman, M. D., pp. 731–745.

No. 4. December 11, 1878. 747–908 pp., 2 ll.

Art. XXXII. The fossil insects of the Green River shales, by Samuel H. Scudder, Cambridge, Mass., pp. 747–776.

Art. XXXIII. Report on the collection of fishes made by Dr. Elliott Coues, U. S. A., in Dakota and Montana during the seasons of 1873 and 1874, by David S. Jordan, M. D., pp. 777–799.

Art. XXXIV. Catalogue of phænogamous and vascular cryptogamous plants collected during the summers of 1873 and 1874 in Dakota and Montana along the forty-ninth parallel, by Dr. Elliott Coues, U. S. A.: with which are incorporated those collected in the same region at the same times by Mr. George M. Dawson, by Prof. J. W. Chickering, pp. 801–830.

Art. XXXV. On some striking products of erosion in Colorado, by F. M. Endlich, S. N. D., pp. 831–864.

Art. XXXVI. Paleontological papers No. 8: Remarks upon the Laramie group, by C. A. White, M. D., pp. 865–876.

Art. XXXVII. Synonymatic list of American Sciuri, or arboreal squirrels, by J. A. Allen, pp. 877–887.

Index. 889–908 pp.

Department of the Interior. Bulletin of the United States Geological and Geographical Survey of the Territories. F. V. Hayden, U. S. geologist-in-charge. 1879–80. Volume V. Washington: Government Printing Office. 1880.

8°. vii, 1072 pp., 8 ll., 4 pls.

No. 1. February 28, 1879. 1–152 pp., 4 ll., i–ii pls.

Art. I. Notes on the Aphididæ of the United States, with descriptions of species occurring west of the Mississippi, by Chas. V. Riley and J. Monell, pp. 1–32, pls. i–ii.

Art. II. The relations of the horizons of extinct vertebrata of Europe and North America, by E. D. Cope, pp. 33–54.

Art. III. Observations on the faunæ of the Miocene Tertiaries of Oregon, by E. D. Cope, pp. 55–69.

Art. IV. Notes on the birds of Fort Sisseton, Dakota Territory, by Chas. E. McChesney, acting assistant surgeon, U. S. A., pp. 71–103.

Art. V. Paleontological papers No. 9: Fossils of the Jura-Trias of southeastern Idaho, by C. A. White, M. D., pp. 105–117.

Art. VI Jura-Trias section of southeastern Idaho and western Wyoming, by A. C. Peale, M. D., pp. 119–123.

Art. VII. Fossil forests of the volcanic Tertiary formations of the Yellowstone National Park, by W. H. Holmes, pp. 125–132.

Art. VIII. Paleontological Papers No. 10: Conditions of preservation of invertebrate fossils, by C. A. White, M. D., pp. 133–141.

Art. IX. Supplement to the bibliography of North American invertebrate paleontology, by C. A. White and H. Alleyne Nicholson, pp. 143–152.

No. 2. September 6, 1879. 153–330 pp., 2 ll., iii–iv pls.

Art. X. On the Coatis (genus Nasua, Storr), by J. A. Allen, pp. 153–174.

Art. XI. On the present status of Passer domesticus in America, with special reference to the Western States and Territories, by Dr. Elliott Coues, U. S. A., pp. 175–193.

Art. XII. The Laramie group of western Wyoming and adjacent regions, by A. C. Peale, M. D., pp. 195–200.

Art. XIII. On Lithophane and new Noctuidæ, by A. R. Grote, pp. 201–208.

Art. XIV. Paleontological papers No. 11: Remarks upon certain Carboniferous fossils from Colorado, Arizona, Idaho, Utah, and Wyoming, and certain Cretaceous corals from Colorado, together with descriptions of new forms, by C. A. White, M. D., pp. 209–221.

Art. XV. The so-called Two-Ocean Pass, by F. V. Hayden, pp. 223–225, pls. iii–iv.

Art. XVI. On the extinct species of Rhinoceridæ of North America and their allies, by E. D. Cope, pp. 227–237.

Art. XVII. Second installment of American ornithological bibliography, by Dr. Elliott Coues, U. S. A., pp. 239–330.

No. 3. November 30, 1879. 331–520 pp., 1 l.

Art. XVIII. On the species of the genus Bassaris, by J. A. Allen, pp. 331–340.

Art. XIX. The American Bembecidæ: tribe Stizini, by W. H. Patton, pp. 341–347.

Art. XX. List of a collection of aculeate Hymenoptera made by Mr. S. W. Williston in northwestern Kansas, by W. H. Patton, pp. 349–370.

Art. XXI. Further notes on the ornithology of the lower Rio Grande of Texas, from observations made during the spring of 1878, by George B. Sennett; edited, with annotations, by Dr. Elliott Coues, U. S. A., pp. 371–440.

Art. XXII. Additional lists of elevations, by Henry Gannett, pp. 441–470.

Art. XXIII. Generic arrangement of the bees allied to Melissodes and Anthophora, by W. H. Patton, pp. 471–479.

Art. XXIV. Annotated list of the birds of Michigan, by Dr. Morris Gibbs, pp. 481–497.

Art. XXV. The Coleoptera of the alpine Rocky Mountain regions.—Part II, by John L. Le Conte, M. D., pp. 499–520 [continued from vol. 4, p. 480].

No. 4. September 30, 1880. 521–1072 pp., 1 l.

Art. XXVI. Third installment of American ornithological bibliography, by Dr. Elliott Coues, U. S. A., pp. 521–1066.

Index, pp. 1067–1072.

Department of the Interior. Bulletin of the United States Geological and Geographical Survey of the Territories. F. V. Hayden,

U. S. geologist-in-charge. 1882. Volume VI. Washington: Government Printing Office. 1882.

8°. vi, 598 pp., 10 ll., 14 pls., 2 maps, 3 illustrations.

No. 1. February 11, 1881. 1–202 pp., 6 ll., i–iv pls.

Art. I. The vegetation of the Rocky Mountain region and a comparison with that of other parts of the world, by Asa Gray and Joseph D. Hooker, pp. 1–77.

Art. II. On some new Batrachia and Reptilia from the Permian beds of Texas, by E. D. Cope, pp. 79–82.

Art. III. On a wading bird from the Amyzon shales, by E. D. Cope, pp. 83–85.

Art. IV. Osteology of Speotyto cunicularia var. hypogæa, by R. W. Schufeldt, Acting Assistant Surgeon, U. S. Army, pp. 87–117, pls. i–ii.

Art. V. Osteology of Eremophila alpestris, by R. W. Shufeldt, Acting Assistant Surgeon, U. S. Army, pp. 119–147, pls. iii–iv.

Art. VI. Preliminary list of the North American species of Agrotis, with descriptions, by A. R. Grote, pp. 149–164.

Art. VII. On the Nimravidæ and Canidæ of the Miocene period, by E. D. Cope, pp. 165–181.

Art. VIII. On the vertebrata of the Wind River Eocene beds of Wyoming, by E. D. Cope, pp. 183–202.

No. 2. September 19, 1881. 203–397 pp., 2 ll., v–xiv pls., 2 maps, 3 illustrations.

Art. IX. Annotated list of the birds of Nevada, by W. J. Hoffman, M. D., pp. 203–256, 1 map, 2 illustrations.

Art. X. North American moths, with a preliminary catalogue of species of Hadena and Polia, by Aug. R. Grote, pp. 257–277.

Art. XI. The Tertiary lake-basin at Florissant, Colorado, between South and Hayden parks, by Samuel H. Scudder, pp. 279–300, 1 map.

Art. XII. Revision of the genus Sciurus, by Dr. E. L. Trouessart; translated, with notes, by Dr. Elliott Coues, U. S. Army, pp. 301–307.

Art. XIII. Osteology of the North American Tetraonidæ, by R. W. Shufeldt, M. D., First Lieut. Med. Dept., U. S. A., pp. 309–350, pls. v–xiii.

Art. XIV. Osteology of Lanius ludovicianus excubitorides, by R. W. Shufeldt, M. D., First Lieut. Med. Dept., U. S. A., pp. 351–359, pl. xiv.

Art. XV. Review of the Rodentia of the Miocene period of North America, by E. D. Cope, N. A. S., pp. 361–386.

Art. XVI. On the Canidæ of the Loup Fork epoch, by E. D. Cope, pp. 387–390.

Art. XVII. On a crayfish from the lower Tertiary beds of western Wyoming, by A. S. Packard, jr., pp. 391–397, 1 illustration.

No. 3. August 30, 1882. 399–598 pp., 2 ll.

Art. XVIII. Preliminary list of works and papers relating to the mammalian orders Cete and Sirenia, by Joel Asaph Allen, pp. 399–562.

Art. XIX. New moths, with partial catalogue of Noctuæ, by A. R. Grote, A. M., pp. 563–578.

Art. XX. New moths, principally collected by Mr. Roland Thaxter in Maine, with notes on noxious species and remarks on classification, pp. 579–591.

Index. 593–598 pp.

MISCELLANEOUS PUBLICATIONS.

Department of the Interior. United States Geological Survey of the Territories. F. V. Hayden, U. S. Geologist in charge. Miscellaneous publications. No. 1[–12]. Washington: Government Printing Office. 1873[–1880].

8°. 15 vols.

1. Lists of elevations in that portion of the United States west of the Mississippi River. [Second edition.[a]] Collated and arranged by Henry Gannett, Assistant. 1873. 47 pp.
1. List of elevations principally in that portion of the United States west of the Mississippi River. Third edition. Collated and arranged by Henry Gannett. 1875. 72, ii pp.
1. List of elevations principally in that portion of the United States west of the Mississippi River. Fourth edition. Collated and arranged by Henry Gannett, M. E. 1877. x, 167 pp., 1 map.
2. Meteorological observations during the year 1872 in Utah, Idaho, and Montana, prepared for publication by Henry Gannett, Assistant. 1873. 120 pp.
3. Birds of the Northwest: A hand-book of the ornithology of the region drained by the Missouri River and its tributaries. By Elliott Coues, captain and assistant surgeon, U. S. Army. 1874. xi, 791 pp.
4. Synopsis of the flora of Colorado, by Thomas C. Porter and John M. Coulter. March 20, 1874. 5 ll., 180 pp.
5. Descriptive catalogue of the photographs of the United States Geological Survey of the Territories for the years 1869 to 1873, inclusive. W. H. Jackson, photographer. 1874. 83 pp.
5. Descriptive catalogue of the photographs of the United States Geological Survey of the Territories for the years 1869 to 1875, inclusive. Second edition. W. H. Jackson, photographer. 1875. 81 pp., 14 illustrations.
6. Meteorological observations made during the year 1873 and the early part of the year 1874 in Colorado and Montana Territories. Prepared for publication by George B. Chittenden. 1874. 57 pp.
7. Ethnography and philology of the Hidatsa Indians, by Washington Matthews, assistant surgeon United States Army. 1877. vi, 239 pp.
8. Fur-bearing animals: A monograph of North American Mustelidæ, in which an account of the wolverine, the martens or sables, the ermine, the mink and various other kinds of weasels, several species of skunks, the badger, the land and sea otters, and numerous exotic allies of these animals, is contributed to the history of North American mammals. By Elliott Coues, captain and assistant surgeon, United States Army, secretary and naturalist of the Survey. Illustrated with sixty figures on twenty plates. 1877. xiv, 348 pp., 20 pls.
9. Descriptive catalogue of photographs of North American Indians, by W. H. Jackson, photographer of the Survey. 1877. vi, 124 pp.
10. Bibliography of North American invertebrate paleontology, being a report upon the publications that have hitherto been made upon the invertebrate paleontology of North America, including the West Indies and Greenland. By C. A. White, M. D., paleontologist of the United States Geological Survey, and H. Alleyne Nicholson, M. D., D. Sc., professor at the University of Saint Andrews, Scotland. 1878. 132 pp.

[a] The first edition of this publication was by Cyrus Thomas, and is catalogued under unclassified publications, p. 32.

11. Birds of the Colorado Valley: A repository of scientific and popular information concerning North American ornithology, by Elliott Coues. *Ηλθ ηλδε χελιδὼν χαλὰς ὥρας ἄγουσα.* Part first, Passeres to Laniidæ. Bibliographical Appendix, seventy illustrations. 1878. xvi, 807 pp.
12. History of North American pinnipeds: A monograph of the walruses, sea-lions, sea-bears, and seals of North America, by Joel Asaph Allen, assistant in the Museum of Comparative Zoology, at Cambridge, special collaborator of the Survey. 1880. xvi, 785 pp.

UNCLASSIFIED PUBLICATIONS.[a]

[1] Forty-second Congress, first session, House of Representatives Ex. Doc. No. 19. Final Report of the United States Geological Survey of Nebraska and portions of the adjacent Territories, made under the direction of the Commissioner of the General Land Office. By F. V. Hayden, United States geologist. March 23, 1871. Ordered to be printed. Washington: Government Printing Office 1872.

8°. 264 pp., 11 il., 11 pls., 1 map.

[Part I.] Geology, by F. V. Hayden, pp. 3–79.

Part II. Paleontology, Report on the paleontology of eastern Nebraska, with some remarks on the Carboniferous rocks of that district, by F. B. Meek. pp. 81–245, pls. 1–11.

Part III. Entomology, Notes on the Orthoptera collected by Dr. F. V. Hayden in Nebraska, by Samuel H. Scudder, pp. 247–261.

Index, pp. 263–264.

[2] List of elevations and distances in that portion of the United States west of the Mississippi River. Collated and arranged by Prof. C. Thomas, Asst. U. S. Geol. Surv., under Dr. F. V. Hayden. Washington: Government Printing Office. 1872.

12mo. 31 pp.

[3] Department of the Interior. United States Geological Survey of the Territories. F. V. Hayden, U. S. geologist in charge. Profiles, sections and other illustrations, designed to accompany the final report of the chief geologist of the Survey and sketched under his directions by Henry W. Elliott. Under authority of the Secretary of the Interior. New York. Julius Bien. 1872.

4°. 2 pp., 65 pls.

[4] Department of the Interior. United States Geological Survey of the Territories. F. V. Hayden, U. S. Geologist in charge. Synopsis of new vertebrata from the Tertiary of Colorado, obtained during the summer of 1873. By Professor E. D. Cope. [Extracted from the Seventh Annual Report of the United States Geological Survey of the Territories, F. V. Hayden, U. S. geologist-in-charge.] Washington: Government Printing Office. October, 1873.

8°. 19 pp.

NOTE.—Only quasi-extracted from the report of which it ostensibly forms part. It was published in advance of the Seventh Annual Report as a separate pamphlet, and finally appears in that report so much modified as to be in effect a different article.

[a] Numbered arbitrarily for convenience in reference.

[5] Department of the Interior. Catalogue of the publications of the United States Geological Survey of the Territories. F. V. Hayden, geologist-in-charge. Washington: Government Printing Office. 1874.

8°. 20 pp.

[6] Department of the Interior. United States Geological and Geographical Survey of the Territories. F. V. Hayden, in charge. Catalogue of the photographs of the U. S. Geological and Geographical Survey of the Territories. By W. H. Jackson, photographer. Washington: Government Printing Office. 1875.

18mo. 51 pp.

[7] Department of the Interior. U. S. Geological and Geographical Survey of the Territories. F. V. Hayden, U. S. geologist-in-charge. The Grotto Geyser of the Yellowstone National Park. With a descriptive note and map, and an illustration by the Albert-type process. [n. d., n. p. Washington: Government Printing Office. 1876.]

Oblong folio. 1 p. l., 2 ll of text, 1 illustration, 1 map.

[8] Department of the Interior. Catalogue of the publications of the U. S. Geological and Geographical Survey of the Territories. F. V. Hayden, geologist in charge. Second edition. (Revised to December 31, 1876.) Washington: Government Printing Office. 1877.

8°. 38 pp.

[9] Department of the Interior. U. S. Geological and Geographical Survey of the Territories. F. V. Hayden, in charge. Bulletin of the United States Entomological Commission. Destruction of the young or unfledged locusts. No. 1. Washington: Government Printing Office. 1877.

8°. 12 pp.

[10] Department of the Interior. U. S. Geological and Geographical Survey of the Territories. F. V. Hayden, U. S. geologist-in-charge. Bulletin of the United States Entomological Commission. On the natural history of the Rocky Mountain locust, and on the habits of the young or unfledged insects as they occur in the more fertile country in which they will hatch the present year. No. 2. Washington: Government Printing Office. May, 1877.

8°. 15 pp.

[11] Department of the Interior. U. S. Geological and Geographical Survey of the Territories. F. V. Hayden, in charge. Bulletin of the United States Entomological Commission. Destruction of the young or unfledged locusts. No. 1. Second edition. Washington: Government Printing Office. June 1877.

8°. 15 pp.

NOTE.—Somewhat modified from the first edition.

[12] Department of the Interior. U. S. Geological and Geographical Survey of the Territories. F. V. Hayden, U. S. geologist-in-charge. Bulletin of the United States Entomological Commission. On the natural history of the Rocky Mountain locust and on the habits of the young or unfledged insects as they occur in the more fertile country in which they will hatch the present year. No. 2. Second edition. Washington: Government Printing Office. June, 1877.

8°. 14 pp.

NOTE.—Somewhat modified from the first edition.

[13] Department of the Interior. Preliminary report of the field work of the U. S. Geological and Geographical Survey of the Territories for the season of 1877. Washington: Government Printing Office. 1877.

8°. 35 pp.

[14] Department of the Interior. United States Geological Survey. F.V. Hayden, U. S. geologist-in-charge. First [a] Annual Report of the United States Entomological Commission for the year 1877 relating to the Rocky Mountain locust and the best methods of preventing its injuries and of guarding against its invasions, in pursuance of an appropriation made by Congress for this purpose. With maps and illustrations. Washington: Government Printing Office. 1878.

8°. xvi, 477. 295 pp., 5 ll., 5 pls., 3 maps.

[15] Department of the Interior. U. S. Geological and Geographical Survey of the Territories. F. V. Hayden, U. S. geologist-in-charge. Illustrations of Cretaceous and Tertiary plants of the western Territories of the United States. Washington: Government Printing Office. 1878.

4°. 28 ll., 28 pls.

[16] Department of the Interior. United States Geological and Geographical Survey. F. V. Hayden, U. S. geologist-in-charge. Preliminary report of the field work of the U. S. Geological and Geographical Survey of the Territories for the season of 1878. By F. V. Hayden. Washington: Government Printing Office. 1878.

8°. 29 pp.

[17] Department of the Interior Catalogue of the publications of the U. S. Geological and Geographical Survey of the Territories F. V. Hayden, United States geologist Third edition Revised to December 31, 1878. Washington: Government Printing Office. 1879.

8°. 54 pp.

[a] The Second Annual Report of the Entomological Commission was published by the Department of the Interior; the Third Annual Report was published by the Department of Agriculture.

MAPS.

ATLAS OF COLORADO.

[FIRST EDITION.]

[Vignette] Department of the Interior. United States Geological and Geographical Surveys of the Territories. Geological and Geographical Atlas of Colorado and portions of adjacent territory by F. V. Hayden U. S. Geologist in charge. 1877 Julius Bien, Lith.

Folio, 2 ll. (title page and legend), 20 double folio atlas sheets.

Sheets I–IV are triangulation, drainage, land classification, and geologic maps of Colorado west of longitude 102°, on the scale of 12 miles to the inch.

Sheets V–XVI are topographic (contour) and geologic maps of Colorado and adjacent States, between meridians 104° 30′ and 109° 30′ and parallels 36° 45′ and 40° 30′, on the scale of 4 miles to the inch.

Sheets XVII and XVIII contain three geologic sections across the State, west of the longitude 104° 30′.

Sheets XIX and XX are panoramic views of the Pikes Peak group, Sawatch Range, central portion of West Elk Mountains, Twin Lakes, southwestern border of the Mesa Verde, San Juan Mountains, and La Plata Mountains.

[SECOND EDITION.]

[Vignette] Department of the Interior. United States Geological and Geographical Surveys of the Territories. Geographical and Geological atlas of Colorado and portions of adjacent territory by F. V. Hayden U. S. Geologist in charge Corrected to date and printed in accordance with an act of Congress approved February 9th, 1881. Julius Bien, Lith.

Folio, 2 ll. (title page and legend), 20 double folio atlas sheets. Contents same as first edition.

SEPARATE MAPS.[a]

GENERAL.

Map showing primary triangulation of 1877.

General geologic map of area explored from 1869 to 1880. Limiting meridians, 90° and 114°; limiting parallels, 35° and 48°. Scale, 41.03 miles to the inch.

COLORADO.

Land survey work in Colorado. Scale, 4 miles to the inch. Published for field use of Survey only.

Central Colorado, showing regions surveyed in 1873. Shows drainage only. Scale, 8 miles to the inch. Also in report for 1873.

[a] In the list below are given the maps issued independent of other publications. Maps accompanying the reports are listed in the "Index," pages 134–139.

Map showing primary and secondary triangulation of 1873. Limiting meridians, 104° 15′ and 107°; limiting parallels, 38° and 40° 30′. Scale, 8 miles to the inch. Also in report for 1873.

Preliminary map of the San Juan country. Shows drainage only. Limiting meridians, 106° 10′ and 108°; limiting parallels, 37° 15′ and 38° 15′. Scale, 4 miles to the inch. Also in Bull., vol. I, No. 3, 2d series.

Preliminary map of central Colorado, showing region surveyed in 1873 and 1874. Limiting meridians, 104° 30′ and 107° 30′; limiting parallels, 37° and 40° 30′. Also in report for 1874.

Drainage map of Colorado. Portion of State west of one hundred and second meridian. Scale, 12 miles to the inch. Also in Atlas of Colorado.

Economic map of Colorado, showing areas of arable, pasture, timber, desert, coal, and other lands. Portion of State west of one hundred and second meridian. Scale, 12 miles to the inch. Published also in Atlas of Colorado.

General geologic map of Colorado. Portion west of one hundred and second meridian. Scale, 12 miles to the inch. Also in Atlas of Colorado.

IDAHO.

Parts of Idaho, Montana, and Wyoming. Limiting meridians, 109° and 114°; limiting parallels, 43° and 46°. Hachure. Scale, 10 miles to the inch.

Sources of Snake River and portions of headwaters of Madison and Yellowstone rivers. Topography shown by brush work. Scale, 5 miles to the inch.

Geologic map on above base.

Drainage map of portions of Wyoming, Idaho, and Utah. Limiting meridians, 107° and 112° 30′; limiting parallels, 42° 45′ and 44°. Scale, 8 miles to the inch.

MONTANA.

Parts of Idaho, Montana, and Wyoming. Limiting meridians, 109° and 114°; limiting parallels, 43° and 46°. Hachure. Scale, 10 miles to the inch.

Montana and Wyoming Territories, embracing most of the country drained by Madison, Gallatin, and Upper Yellowstone rivers. Contour interval, 100 feet. Scale, 4 miles to the inch.

Geologic map on same base.

UTAH.

Drainage map of portions of Wyoming, Idaho, and Utah. Limiting meridians, 107° and 112° 30′; limiting parallels, 42° 45′ and 44°. Scale, 8 miles to the inch.

WYOMING.

Yellowstone National Park. Limiting meridians, 110° and 111°: limiting parallels, 44° 10′ and 45°. Scale, 2 miles to the inch. Contour interval, 100 feet.

Geologic map on above base.

Yellowstone National Park. Hachure map. Scale, 10 miles to the inch. Also in report for 1871.

Upper Geyser Basin. Hachure. Scale, 600 feet to the inch.

Upper Geyser Basin. Hachure. Scale, 880 feet to the inch.

Upper Geyser Basin. Hachure. Scale, 500 feet to the inch.

Lower Geyser Basin. Hachure. Scale, 1,500 feet to the inch.

Lower Geyser Basin. Hachure. Scale, 880 feet to the inch.

Lower Geyser Basin. Hachure. Scale, 800 feet to the inch.

Gibbon Geyser Basin. Hachure. Scale, 200 feet to the inch.

Gibbon Geyser Basin. Hachure. Scale, 400 feet to the inch.

Shoshone Geyser Basin. Hachure. Scale, 125 feet to the inch.

Egeria Springs, Firehole River. Hachure. Scale, 250 feet to the inch.

Mammoth Hot Springs. Hachure. Scale, 400 feet to the inch.

Hot Springs on Witch Creek. Scale, 1,600 feet to the inch.

Yellowstone Lake. Scale, 2 miles to the inch.

Parts of Idaho, Montana, and Wyoming. Limiting meridians, 109° and 114°; limiting parallels, 43° and 46°. Hachure. Scale, 10 miles to the inch.

Montana and Wyoming Territories, embracing most of the country drained by Madison, Gallatin, and Upper Yellowstone rivers. Contour interval, 100 feet. Scale, 4 miles to the inch.

Geologic map on same base.

Sources of Snake River and portions of headwaters of Madison and Yellowstone rivers. Topography shown by brush work. Scale, 5 miles to the inch.

Geologic map on above base.

Geologic map of parts of central Wyoming. Limiting meridians, 107° and 109° 30′; limiting parallels, 41° 45′ and 43°. Scale, 4 miles to the inch.

Map showing primary triangulation of 1877–78. Scale, 12 miles to the inch.

Drainage map of portions of Wyoming, Idaho, and Utah. Limiting meridians, 107° and 112° 30′; limiting parallels, 42° 45′ and 44°. Scale, 8 miles to the inch.

UNITED STATES GEOLOGICAL EXPLORATION OF THE FORTIETH PARALLEL (KING).

ANNUAL REPORTS.

1871.

[Report of Clarence King, geologist in charge of the Geological Exploration of the 40th Parallel.] Annual Report of the Chief of Engineers to the Secretary of War for the year 1871. Appendix Z, pp. 1027–1030.

1872.

Geological Exploration of the 40th Parallel, from the Sierra Nevada to the eastern slope of the Rocky Mountains. Annual Report of Chief of Engineers to the Secretary of War for the year 1872, pp. 101–102.

1873.

Report of Mr. Clarence King, geologist, in charge of the Geological Exploration of the Fortieth Parallel, from Sierra Nevada to the eastern slope of the Rocky Mountains. Annual Report of the Chief of Engineers to the Secretary of War for 1873, Appendix DD, pp. 1203–1210.

1874.

Annual Report of Mr. Clarence King, geologist, for the fiscal year ending June 30, 1874. Annual Report of the Chief of Engineers to the Secretary of War for 1874, Part II, Appendix EE, pp. 477–480.

1875.

Annual Report of Mr. Clarence King, geologist, for the fiscal year ending June 30th, 1875. Annual Report of the Chief of Engineers to the Secretary of War for 1875, Part II, Appendix KK, pp 919–920.

1876.

Annual Report of Mr. Clarence King, geologist, for the fiscal year ending June 30, 1876. Annual Report of the Chief of Engineers to the Secretary of War for 1876, Part III, Appendix II, pp. 217–218.

1877.

Annual Report of Mr. Clarence King, geologist, for the fiscal year ending June 30, 1877. Annual Report of the Chief of Engineers to the Secretary of War for 1877, Part II, Appendix MM, p. 1207.

1878.

Annual Report of Clarence King, geologist, for the fiscal year ending June 30, 1878. Annual Report of the Chief of Engineers to the Secretary of War for 1878, Part III, Appendix MM, p. 1419.

FINAL REPORTS OR MONOGRAPHS.

[Vignette] Professional Papers of the Engineer Department, U. S. Army. No. 18. Report of the Geological Exploration of the Fortieth Parallel made by order of the Secretary of War according to acts of Congress of March 2, 1867, and March 3, 1869, under the direction of Brig. and Bvt. Major General A. A. Humphreys, Chief of Engineers, by Clarence King, U. S. geologist.

Volume I [-VII].

4°. 7 vols.

I. Systematic geology, by Clarence King, U. S. Geologist. 1878. xii, 803 pp., 16 tables, 28 pls. (2 pls. marked "Plate I," 1 pl. not numbered), 12 maps and atlas of 12 sheets folio.[a]

II. Descriptive geology, by Arnold Hague and S. F. Emmons. 1877. xiii, 890 pp., 26 pls.

III. Mining industry, by James D. Hague, with geological contributions by Clarence King. 1870. xv, 647 pp., 37 pls, frontispiece, and atlas of 14 sheets folio.[a]

IV. Part I, Palæontology, by F. B. Meek. Part II, Palæontology, by James Hall and R. P. Whitfield. Part III, Ornithology, by Robert Ridgway. 1877. xii, 669 pp., 18 ll., 24 pls.

V. Botany, by Sereno Watson, aided by Prof. Daniel C. Eaton and others. 1871. liii, 525 pp., 1 map, 40 pls.

VI. Microscopical petrography, by Ferdinand Zirkel. 1876. xv, 297 pp., 12 pls.

VII. Odontornithes: A monograph on the extinct toothed birds of North America, by Othniel Charles Marsh, professor of paleontology in Yale College. 1880. xv, 201 pp., 34 ll., 34 pls.

ATLAS.

[Vignette] Engineer Department, U. S. A., Geological and Topographical Atlas accompanying the report of the Geological Exploration of the Fortieth Parallel, made by authority of the Honorable Secretary of War, under the direction of Brig. and Bvt. Major General

[a] See p 40.

A. A. Humphreys, Chief of Engineers, U. S. A., by Clarence King, U. S. geologist-in-charge. 1876. Julius Bien Lith.

Folio, 2 ll., (title and legend), 1 single and 11 double folio sheets (1 single folio map, 10 double folio maps, 1 double folio section).

Contains topographic (shaded) map of Cordilleran region, limiting meridians 104° and 124°; limiting parallels 29° and 50°. Scale, 60 miles to the inch.

Also contains four geologic and four topographic (shaded) maps, on scale of 4 miles to the inch, of the following areas:

Sheet I. Longitude, 104° 30′–107° 37′; latitude, 40° 20′–41° 54′.
Sheet II. Longitude, 107° 37′–110° 43′; latitude, 40° 16′–41° 50′.
Sheet III. Longitude, 110° 43′–113° 50′; latitude, 40° 13′–41° 46′.
Sheet IV. Longitude, 113° 50′–116° 56′; latitude, 39° 55′–41° 29′.

[Vignette] United States Geological Exploration of the Fortieth Parallel, Clarence King, Geologist in charge. Atlas accompanying Volume III on mining industry. [List of plates.] Engraved and printed by Julius Bien, New York.

Folio, 1 l. (title page), 14 pls.

SPECIAL PUBLICATION.

United States Geological Exploration of the 40th Parallel. Clarence King, U. S. geologist-in-charge. List of plants collected in Nevada and Utah, 1867–69; numbered as distributed. Sereno Watson, collector.

UNITED STATES GEOGRAPHICAL AND GEOLOGICAL SURVEY OF THE ROCKY MOUNTAIN REGION (POWELL).

EARLY REPORTS BY J. W. POWELL.[a]

Forty-second Congress, second session, House of Representatives, Mis. Doc. No 173. Survey of the Colorado River of the West. Letter from the Secretary of the Smithsonian Institution, transmitting report preliminary for continuing the survey of the Colorado of the West and its tributaries, by Professor Powell. April 5, 1872.—Referred to the Committee on Appropriations and ordered to be printed.

8°. 12 pp.

Forty-second Congress, third session, House of Representatives, Mis. Doc. No 76. Report of the survey of the Colorado of the West. Letter from the Secretary of the Smithsonian Institution, transmitting a report of the survey of the Colorado of the West and its tributaries. January 31, 1873.—Referred to the Committee on Appropriations and ordered to be printed.

8°. 16 pp.

Forty-third Congress, first session, House of Representatives, Mis. Doc. No 265. Professor Powell's Report on the survey of the Colorado of the West. Letter from the Secretary of the Smithsonian Institution, transmitting a report of Professor Powell on the survey of the Colorado River of the West and its tributaries, etc., etc. May 2, 1874. Referred to the Committee on Appropriations and ordered to be printed.

8°. 29 pp.

Report of explorations in 1873 of the Colorado of the West and its tributaries, by Professor J. W. Powell, under the direction of the Smithsonian Institution. Washington: Government Printing Office. 1874.

8°. 36 pp. (Same as House Mis Doc. 265, 43d Cong., 1st sess.).

Exploration of the Colorado River of the West and its tributaries. Explored in 1869, 1870, 1871, and 1872, under the direction of the Secretary of the Smithsonian Institution. [By J. W. Powell.] Washington: Government Printing Office. 1875

4°. xi, 291 pp., 2 ll., 72 illustrations.

[a] These reports were issued before the Powell survey was organized, but they are preliminary to the publications of that organization.

FINAL REPORTS.

Department of the Interior. U. S. Geological and Geographical Survey of the Territories. Second division.—J. W. Powell, geologist in charge. Report on the geology of the eastern portion of the Uinta Mountains and a region of country adjacent thereto. With atlas. By J. W. Powell. Washington: Government Printing Office. 1876

4°, vii, 218 pp., 4 illustrations and atlas of 8 sheets folio.

Report on the Geological and Geographical Survey of the Rocky Mountain region, by J. W. Powell. Washington: Government Printing Office. 1877.

8°. 19 pp., 1 map.

U. S. Geographical and Geological Survey of the Rocky Mountain Region. J. W. Powell, in charge. Preliminary report on the paleontology of the Black Hills, by R. P. Whitfield, containing descriptions of new species of fossils from the Potsdam, Jurassic, and Cretaceous formations of the Black Hills of Dakota. Washington: Government Printing Office. July, 1877.

8°. 49 pp.

Department of the Interior. U. S. Geographical and Geological Survey of the Rocky Mountain Region. J. W. Powell, in charge. Report on the geology of the Henry Mountains. By G. K. Gilbert. [Seal of the Department] Washington: Government Printing Office. 1877 [second edition, 1880]

4°. x, 160 pp., 27 ll. containing illustrations

Report on the lands of the arid region of the United States, with a more detailed account of the lands of Utah. With maps. By J. W. Powell. Second edition.[a] Washington: Government Printing Office. 1879.

4°. xv, 195 pp., 5 maps.

Department of the Interior. U. S. Geographical and Geological Survey of the Rocky Mountain Region. J. W. Powell, in charge. Report on the geology and resources of the Black Hills of Dakota, with atlas, by Henry Newton, E. M., and Walter P. Jenney, E. M. [Seal of the Department] Washington. Government Printing Office. 1880.

4°. xvii, 566 pp., 23 ll., frontispiece, 28 illustrations and atlas containing 3 sheets folio.

Department of the Interior. U. S. Geographical and Geological Survey of the Rocky Mountain Region. J. W. Powell, in charge, Report on the geology of the high plateaus of Utah, with atlas, by C. E.

[a] First edition was published as a document of Congress.

Dutton, Captain of Ordnance, U. S. A. [Seal of the Department] Washington Government Printing Office 1880

4°. xxxii, 307 pp., 11 heliotypes, 2 pls., 2 unnumbered illustrations, atlas of 8 sheets folio.

CONTRIBUTIONS TO NORTH AMERICAN ETHNOLOGY.

Department of the Interior. U. S. Geographical and Geological Survey of the Rocky Mountain region. J. W. Powell in charge. [Vol. I, geologist in charge] Contributions to North American Ethnology. Volume I [–VII, IX] [Seal of the Department] Washington: Government Printing Office. 1877 [–1893]

4° 9 vols.

I. Tribes of the extreme Northwest, by W. H. Dall. Tribes of western Washington and northwestern Oregon, by Geo. Gibbs. 1877. xiv, 361 pp., 10 illustrations, 2 maps.

Part I. Tribes of the extreme Northwest, by W. H. Dall, pp. 1–106.

Appendix to Part I. Linguistics.

Notes on the natives of Alaska (communicated to the late George Gibbs, M. D., in 1862), by his excellency J. Furuhelm, late governor of the Russian-American colonies, pp. 111–116.

Terms of relationship used by the Innuit: A series obtained from natives of Cumberland Inlet, by W. H. Dall, pp. 117–119.

Comparative vocabularies [by George Gibbs and W. H. Dall], pp. 121–153.

Note on the use of numerals among the T'sim Si an', by George Gibbs, M. D., pp. 155–156.

Part II. Tribes of western Washington and northwestern Oregon, by George Gibbs, M. D., pp. 157–241.

Appendix to Part II. Linguistics, pp. 243–361.

Comparative vocabularies [by George Gibbs, W. F. Tolmie, and Gregory Mengarini], pp. 243–283.

Dictionary of the Niskwalli, by George Gibbs, M. D., pp. 285–361.

II. The Klamath Indians of southwestern Oregon, by Albert Samuel Gatschet. 1890. 2 parts. cvii, 711 pp., 1 map; iii, 711 pp.

III. Tribes of California, by Stephens Powers. 1877. 3 ll., 645 pp., frontispiece, 45 ll. containing illustrations, pocket map.

IV. Houses and house life of the American aborigines, by Lewis H. Morgan. 1881. xiv, 281 pp., frontispiece, 28 ll. containing figures.

V. 1881. iii, 112, 32, xxxvii, 237 pp., 18 pls., 35 ll. containing figures.

Observations on cup-shaped and other lapidarian sculptures in the Old World and in America, by Charles Rau, iii, 112 pp., 35 ll.

On prehistoric trephining and cranial amulets, by Robert Fletcher, M. R. C. S. Eng. Act. Asst. Surgeon U. S. Army, 32 pp., 9 pls.

A study of the manuscript Troano, by Cyrus Thomas, Ph. D., with an introduction by D. G. Brinton, M. D., xxxvii, 237 pp., 9 pls.

VI. The Ɋegiha language, by James Owen Dorsey. 1890. xviii, 794 pp.

VII. A Dakota-English dictionary, by Stephen Return Riggs; edited by James Owen Dorsey. 1890, x, 665 pp.

VIII. Not published.

IX. Dakota grammar, texts, and ethnography, by Stephen Return Riggs; edited by James Owen Dorsey. 1893. pp.

UNITED STATES GEOGRAPHICAL SURVEYS WEST OF THE ONE HUNDREDTH MERIDIAN (WHEELER).

ANNUAL REPORTS.

1869.

Engineer Department, U. S. Army. Preliminary report upon a reconnaissance through southern and southeastern Nevada, made in 1869, by First Lieut. Geo. M. Wheeler, Corps of Engineers, U. S. Army, assisted by First Lieut. D. W. Lockwood, Corps of Engineers, U. S. Army, under the orders of Brig. Gen. E. O. C. Ord, Bvt. Maj. Gen. U. S. Army, commanding Department of California. Washington: Government Printing Office. 1875.

4°. 72 pp.

1871.

Preliminary report concerning explorations and surveys principally in Nevada and Arizona. Prosecuted in accordance with paragraph 2, special orders No. 109, War Department, March 18, 1871, and letter of instructions of March 23, 1871, from Brig. Gen. A. A. Humphreys, Chief of Engineers. Conducted under the immediate direction of 1st Lieut. George M. Wheeler, Corps of Engineers. 1871. Washington: Government Printing Office. 1872.

4°. 96 pp., 1 map.

[Progress report], pp. 11–62.

Appendix A. Report of Daniel W. Lockwood, First Lieutenant of Engineers, pp. 62–76.

Appendix B. Report of Second Lieutenant D. A. Lyle, United States Artillery, pp. 76–90.

Appendix C. Report of Edward P. Austin, astronomical assistant, pp. 91–92.

Appendix D. Report of G. K. Gilbert, geological assistant, pp. 92–96.

1872.

Engineer Department, United States Army. Progress report upon geographical and geological explorations and surveys west of the one hundredth meridian, in 1872, under the direction of Brig. Gen. A. A. Humphreys, Chief of Engineers, United States Army, by First Lieut. George M. Wheeler, Corps of Engineers, in charge. Washington: Government Printing Office. 1874.

4°. 56 pp., 5 pls. and 1 map.

[Progress report], pp. 7–43, pls. i–v, map.

Appendix A. Preliminary astronomical report, by John H. Clark, astronomical assistant, pp. 44–45.

Appendix B. Preliminary astronomical report, by William W. Maryatt, astronomical assistant, pp. 45–47.

Appendix C. Report by First Lieut. W. L. Marshall concerning the sextant astronomical observations, pp. 47–48.

Appendix D. Preliminary geological report, by G. K. Gilbert, chief geological assistant, expedition of 1872, pp. 48–52.

Appendix E. Report upon natural history collections, by Acting Assistant Surgeon H. C. Yarrow, surgeon and naturalist, pp. 52–55.

Appendix F. Preliminary ethnological report by M. S. Severance, pp. 55–56.

1873.

Annual report upon the geographical surveys and explorations west of the one hundredth meridian, in Nevada, Utah, Colorado, New Mexico, and Arizona, by George M. Wheeler, First Lieutenant of Engineers, U. S. A.; being Appendix EE of the Annual Report of the Chief of Engineers for 1873. Washington: Government Printing Office. 1873.

8°. 11 pp., 1 map.

1874.

Annual report upon the geographical explorations and surveys west of the one hundredth meridian, in California, Nevada, Utah, Arizona, Colorado, New Mexico, Wyoming, and Montana, by George M. Wheeler, First Lieutenant of Engineers, U. S. A.; being Appendix FF of the Annual Report of the Chief of Engineers for 1874. Washington: Government Printing Office. 1874.

8°. 130 pp., 1 map.

[Progress report], pp. 3–112, map.

Plan for publication of reports and maps, with estimates. Summary of publications to present time, pp. 112–114.

Notes on the Eocene and Pliocene lacustrine formations of New Mexico, including descriptions of certain new species of vertebrates, by Prof. E. D. Cope, paleontologist to the expedition, pp. 115–130.

1875.

Annual report upon the geographical explorations and surveys west of the one hundredth meridian in California, Nevada, Nebraska, Utah, Arizona, Colorado, New Mexico, Wyoming and Montana, by George M. Wheeler, First Lieutenant of Engineers, U. S. A.; being Appendix LL of the Annual Report of the Chief of Engineers for 1875. Washington: Government Printing Office. 1875

8°. iv, 196 pp., 2 ll., 9 pls., 2 maps, 1 diagram.

[Progress report], pp. 3–37, pl. i, 2 maps.

Appendix A. Executive report of Lieutenant William L. Marshall, Corps of Engineers, on the operations of party No. 1, division 1, field season of 1874, pp. 37–40.

Appendix B. Executive report of Lieutenant P. M. Price, Corps of Engineers, on the operations of party No. 1, second division, field season of 1874, pp. 40–41.

Appendix C. Executive report of Lieutenant R. Birnie, jr., Thirteenth United States Infantry, on the operations of party No. 2, first division, field season of 1874, pp. 41–43.

Appendix D. Executive report of Lieutenant Stanhope E. Blunt, Ordnance Corps, on the operations of party No. 2, second division, field season of 1874, pp. 43–44.

Appendix E. Executive report of Lieutenant C. W. Whipple, Third United States Artillery, on the operations of party No. 1, first division, and subparties, field season of 1874, pp. 44–46.

Appendix F. Meteorology and hypsometry, field season of 1874, by Lieutenant W. L. Marshall, Corps of Engineers, pp. 47–60, diagram.

Appendix G 1. Report on the geology of that part of northwestern New Mexico examined during the field season of 1874, by E. D. Cope, paleontologist and geologist, pp. 61–97, pls. ii–vi.

Appendix G 2. Geological and mineralogical report on portions of Colorado and New Mexico, by Dr. O. Loew, mineralogist and chemist, pp. 97–116.

Appendix H 1. Preliminary botanical report, with remarks upon the general topography of the region traversed in New Mexico and Arizona; its climatology, forage plants, timber, irrigation, sanitary conditions, etc., by Dr. J. T. Rothrock, acting assistant surgeon, United States Army, pp. 117–129, pls. vii, viii.

Appendix H 2. Report upon the agricultural resources of northern New Mexico and southern Colorado, with analyses of soils, plants, etc., by Dr. O. Loew, pp. 129–139.

Appendix I 1. Zoological report, field season of 1874.

I. General itinerary, by Acting Assistant Surgeon H. C. Yarrow, U. S. Army, pp. 139–148.

II. Notes upon the ornithology of the regions traversed, by H. W. Henshaw, ornithological assistant, pp. 149–150.

III. Notes on the ornithology observed by Mr. C. E. Aiken, assistant, pp. 150–153.

Appendix I 2. Annotated list of the birds of Arizona, by H. W. Henshaw, ornithological assistant, pp. 153–166.

Appendix J. Ethnology, philology, and ruins.

1. Report on the remains of population observed on and near the Eocene Plateau of northwestern New Mexico, by Prof. E. D. Cope, pp. 166–173.
2. Report on the ruins of New Mexico, by Dr. Oscar Loew, pp. 174–178.
3. Report on certain ruins visited in New Mexico, by Lieutenant Rogers Birnie, jr., Thirteenth United States Infantry, pp. 178–180, pl. ix.
4. Report on the Pueblo languages of New Mexico and of the Moquis in Arizona; their affinity to each other and to the languages of the other Indian tribes, by Alb. S. Gatchet, philologist, pp. 180–187.

Appendix K. Publications, maps, reports, photographs, pp. 187–188.

Index, pp. 189–196.

1876.

Annual report upon the geographical surveys west of the one hundredth meridian in California, Nevada, Utah, Colorado, Wyoming, New Mexico, Arizona, and Montana, by George M. Wheeler, First Lieutenant of Engineers, U. S. A.; being Appendix JJ of the Annual Report of the Chief of Engineers for 1876. Washington: Government Printing Office. 1876.

8°. vi, 355 pp., 2 ll., 11 illustrations and maps.

[Progress report], pp. 1–79, 3 maps.

Appendix A. Executive and descriptive report of Lieutenant William L. Marshall, Corps of Engineers, on the operations of party No. 1, Colorado section, field season of 1875, pp. 80–109.

Appendix B. Preliminary report upon the operations of party No. 3, California section, season of 1875–76, with a view to determine the feasibility of diverting the Colorado River for purposes of irrigation, by Lieutenant Eric Bergland, Corps of Engineers, pp. 109–125, 7 maps and illustrations.

Appendix C. Executive and descriptive report of Lieutenant W. L. Carpenter, Ninth Infantry, on the operations of party No. 3, Colorado section, field season of 1875, pp. 126–130.

Appendix D. Executive report of Lieutenant R. Birnie, jr., Thirteenth United States Infantry, on the operations of party No. 2, California section, field season of 1875, pp. 130–135.

Appendix E. Executive and descriptive report of Lieutenant C. C. Morrison, Sixth Cavalry, on the operations of party No. 2, Colorado section, field season of 1875, pp. 136–147.

Appendix F. Executive report of Lieutenant C. W. Whipple, Ordnance Corps, on the operations of special party, California section, field season of 1875, pp. 147–150.

Appendix G 1. Meteorology and hypsometry, field season of 1875, by Lieutenant W. L. Marshall, Corps of Engineers, pp. 150–152.

Appendix G 2. On the meteorlogical conditions of the Mohave Desert, [by Oscar Loew], pp. 152–157.

Appendix H 1. Report on the geology of southern California, by Prof. Jules Marcou, pp. 158–172.

Appendix H 2. Report on the geological and mineralogical character of southeastern California and adjacent regions, pp. 173–188.

Appendix H 3. Report on the alkaline lakes, thermal springs, mineral springs, and brackish waters of southern California and adjacent country [by Oscar Loew], pp. 188–199.

Appendix H 4. Report on the geology of the mountain ranges from La Veta Pass to the head of the Pecos, by A. R. Conkling, pp. 199–202.

Appendix H 5. Report upon the operations of a special natural-history party and main field party No. 1, California section, field season of 1875, being the results of observations upon the economic botany and agriculture of portions of southern California, by Dr. J. T. Rothrock, acting assistant surgeon, United States Army, pp. 202–213.

Appendix H 6. Report on the physical and agricultural features of southern California, and especially of the Mohave Desert, [by Oscar Loew], pp. 214–222.

Appendix H. 7. Report on the geographical distribution of vegetation in the Mohave Desert, [by Oscar Leow], pp. 222–224.

Appendix H 8. Report on the ornithology of the portions of California visited during the field season of 1875, by H. W. Henshaw, pp. 224–278.

Appendix H 9. Report on the Orthoptera, collected by the United States geographical surveys west of the one-hundredth meridian, under the direction of Lieutenant George M. Wheeler, during the season of 1875, by Samuel H. Scudder, pp. 278–295.

Appendix H 10. New species of Coleoptera, collected by the expeditions for geographical surveys west of one-hundredth meridian, in charge of Lieut. George M. Wheeler, United States Engineers, by John L. Leconte, M. D., pp. 296–300.

Appendix H 11. Report on the alpine insect fauna of Colorado and New Mexico, season of 1875, by Lieut. W. L. Carpenter, Ninth Infantry, pp. 301–305.

Appendix H 12. Notes on the mammals taken and observed in California in 1875, by H. W. Henshaw, pp. 305–312.

Appendix H 13. Report on the operations of a special party for making ethnological researches in the vicinity of Santa Barbara, Cal., with an historical account of the region explored, by Dr. H. C. Yarrow, acting assistant surgeon, United States Army, pp. 312–321.

Appendix H 14. Notes upon ethnology of southern California and adjacent regions, by Dr. O. Loew, pp. 321–327, 1 illustration.

Appendix H 15. On the physiological effects of a very hot climate, by Dr. O. Loew, pp. 328–330.

Appendix H 16. Analytical report on eleven idioms spoken in southern California, Nevada, and on the lower Colorado River, their phonetic elements, grammatical structure, and mutual affinites, by Alb. S. Gatschet, pp. 330–343.

Index, pp. 345–355.

1877.

Annual report upon the geographical surveys west of the one-hundredth meridan in the States and Territories of California, Oregon, Nevada, Texas, Arizona, Colorado, Idaho, Montana, New Mexico, Utah, and Wyoming, by George M. Wheeler, First Lieutenant of Engineers, U. S. A., being Appendix NN of the Annual Report of the Chief of Engineers for 1877. Washington: Government Printing Office. 1877.

8°. iv, 1209–1334, v pp., 3 illustrations.

[Progress Report], pp. 1211–1250, 3 illustrations.

Appendix A. Executive and descriptive report of Lieutenant Eric Bergland, Corps of Engineers, on the operations of party No. 1, Colorado section, field season of 1876, pp. 1250–1252.

Appendix B. Executive and descriptive report of Lieutenant Saml. E. Tillman, Corps of Engineers, on the operations of party No. 1, California section, field season of 1876, pp. 1253–1256.

Appendix C. Executive and descriptive report of Lieutenant Thomas W. Symons, Corps of Engineers, on the operations of party No. 3, California section, field season of 1876, pp. 1257–1262.

Appendix D. Executive and descriptive report of Lieutenant R. Birnie, jr., Thirteenth Infantry, on the operations of party No. 4, California section, field season of 1876, pp. 1262–1272.

Appendix E. Executive and descriptive report of Lieutenant Charles C. Morrison, Sixth Cavalry, on the operations of party No. 2, Colorado section, field season of 1876, pp. 1273–1278.

Appendix F. Executive and descriptive report of Lieutenant M. M. Macomb, Fourth Artillery, on the operations of party No. 2, California section, field season of 1876, pp. 1278–1284.

Appendix G. Preliminary report on examination at the Comstock lode, by John A. Church, pp. 1284–1285.

Appendix H. Geological report on the portions of western Nevada and eastern California between the parallels of 39° 30′ and 38° 30′, explored in the field season of 1876, by Mr. A. R. Conkling, pp. 1285–1295.

Appendix H 1. Report on the lithology of portions of southern Colorado and northern New Mexico, by A. R. Conkling, pp. 1295–1298.

Appendix H 2. Report on the foothills facing the plains from latitude 35° 30′ to 38° approximately, by Mr. A. R. Conkling, pp. 1298–1303.

Appendix I. Report on the ornithology of portions of Nevada and California, by Mr. H. W. Henshaw, pp. 1303–1322.

Appendix J. Report upon the hemiptera collected during the years 1874 and 1875, by Mr. P. R. Uhler, pp. 1322–1334.

Index, i–v.

1878.

Annual report upon the geographical surveys of the territory of the United States west of the 100th meridian in the States and Territories of California, Colorado, Kansas, Nebraska, Nevada, Oregon, Texas, Arizona, Idaho, Montana, New Mexico, Utah, Washington, and Wyoming, by George M. Wheeler, First Lieutenant Corps of Engineers, U. S. Army, being Appendix NN of the Annual Report of the Chief of Engineers for 1878. Washington: Government Printing Office. 1878.

8°. x, 234 pp., 8 illustrations and maps.

[Progress report], pp. 1–103, map.

Appendix A. Executive and descriptive report of Lieutenant Eric Bergland, Corps of Engineers, on the operations of party No. 1, Colorado section, field season of 1877, pp. 103–106.

Appendix B. Executive and descriptive report of Lieutenant Samuel E. Tillman, Corps of Engineers, on the operations of party No. 1, Utah section, field season of 1877, pp. 107–112.

Appendix C. Executive and descriptive report of Lieutenant Thomas W. Symons, Corps of Engineers, on the operations of party No. 1, California section, field season of 1877, pp. 113–120.

Appendix D. Brief executive and descriptive report of Lieutenant Willard Young, Corps of Engineers, on the operations of party No. 1, Utah section, field season of 1877, pp. 120–122.

Appendix E. Executive and descriptive report of Lieutenant R. Birnie, jr., Ordnance Department, on the operations of party No. 2, Utah section, field season of 1877, pp. 122–131.

Appendix F. Executive and descriptive report of Lieutenant Charles C. Morrison, Sixth Cavalry, on the operations of party No. 2, Colorado section, field season of 1877, pp. 131–139, 2 illustrations.

Appendix G. Executive and descriptive report of Lieutenant M. M. Macomb, Fourth Artillery, on the operations of party No. 2, California section, field season of 1877, pp. 139–145.

Appendix H. Report upon examination of the Comstock lode, by John A. Church, pp. 145–166.

Appendix I. Geological report on portions of western Nevada and eastern California, including part of the Sierra Nevada Range, by A. R. Conkling, field season of 1877, pp. 167–183.

Appendix I 1. Report on the lithology and mineralogy of portions of Nevada and California, by A. R. Conkling, field season of 1877, pp. 184–185.

Appendix J. Preliminary report on the ornithology of portions of California and Nevada, by H. W. Henshaw, field season of 1877, pp. 185–186.

Appendix K. Report upon the fishes collected during the year 1875, 1876, and 1877, in California and Nevada, by Prof. David S. Jordan and H. W. Henshaw, pp. 187–200, pls. i–iv.

Appendix K 1. List of marine fishes collected on the coast of California, near Santa Barbara, in 1875, with notes by Dr. H. C. Yarrow, acting assistant surgeon, U. S. A., and H. W. Henshaw, pp. 201–205.

Appendix L. Report upon the reptiles and batrachians collected during the years of 1875, 1876, and 1877 in California, Arizona, and Nevada, by Dr. H. C. Yarrow, acting assistant surgeon, U. S. A., and H. W. Henshaw, pp. 206–226.

Appendix M. Notes upon the first discoveries of California and the origin of its name, by Prof. Jules Marcou, pp. 226–229, map.

Index, pp. 231–234.

1879.

Annual report upon the geographical surveys of the territory of the United States west of the 100th meridian, in the States and Territories of California, Colorado, Kansas, Nebraska, Nevada, Oregon, Texas, Arizona, Idaho, Montana, New Mexico, Utah, Washington, and Wyoming. By George M. Wheeler, Captain Corps of Engineers, U. S. Army; being Appendix OO of the Annual Report of the Chief of Engineers for 1879. Washington: Government Printing Office. 1879.

8°. vi, 340 pp., 4 maps.

[Progress report], pp. i–vi, 1–209, 3 maps.

Appendix A. Report of Lieutenant S. E. Tillman, Corps of Engineers, in charge of party No. 1, Utah section, field season of 1878, pp. 209–214, map.

Appendix B. Report of Lieutenant T. W. Symons, Corps of Engineers, in charge of party No. 1, California section, season of 1878, pp. 214–223.

Appendix C. Report of Lieutenant Eugene Griffin, Corps of Engineers, in charge of party No. 2, Colorado section, season of 1878, pp. 223–228.

Appendix D. Report of Lieutenant Willard Young, Corps of Engineers, in charge of party No. 2, Utah section, field season of 1878, pp. 228–235.

Appendix D (sub). Report of Lieutenant Willard Young, Corps of Engineers, in charge of a special party engaged in the survey of great Salt Lake and vicinity, field season of 1879, pp. 235–237.

Appendix E. Report of Lieutenant Rogers Birnie, jr., Ordnance Corps, in charge of party No. 1, Colorado section, field season of 1878, pp. 237–253.

Appendix F. Report of Lieutenant M. M. Macomb, Fourth Artillery, in charge of party No. 2, California section, field seasons of 1878 and 1879, pp. 253–261.

Appendix G. Report of Lieut. H. H. Ludlow, Third Artillery, in charge of party No. 3, Utah section, field season of 1878, pp. 261–264.

Appendix H. Report of special astronomical party at Ogden, Utah, season of 1878, by T. H. Safford, Ph. D., assistant, pp. 264–265.

Appendix I. Report of special astronomical party operating in California, Oregon, and Washington Territory, by John H. Clark, astronomical assistant, pp. 265–268.

Appendix J. Report of special astronomical party operating in New Mexico and Texas, field season of 1878, by Miles Rock, assistant, pp. 268–270.

Appendix K. Preliminary report of a special geological party operating in Colorado and New Mexico, from Spanish Peaks to the south, field season of 1878, by Professor John J. Stevenson, assistant, pp. 271–281.

Appendix K (sub). Preliminary report of a special geological party operating in Colorado and New Mexico, field season of 1879, by Prof. John J. Stevenson, assistant, p. 281.

Appendix L. Ornithological report from observations and collections made in portions of California, Nevada, and Oregon, by Assistant H. W. Henshaw, pp. 282–335.

Index, pp. 337–340.

1880.

Annual report upon the geographical and topographical surveys of the territory of the United States west of the 100th meridian, in the States and Territories of California, Colorado, Kansas, Nebraska, Nevada, Oregon, Texas, Arizona, Idaho, Montana, New Mexico, Utah, Washington, and Wyoming, by George M. Wheeler, Captain Corps of Engineers, U. S. A.; being Appendix PP of the Annual Report of the Chief of Engineers for 1880. Washington: Government Printing Office. 1880.

8°. v, 40 pp., 1 map.

1881.

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8°. iv, 2805–2808 pp., 1 map.

1882.

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8°. 2821–2824 pp., 2 ll.

1883.

Annual report upon the geographical and topographical surveys of the territory of the United States west of the 100th meridian, in the States and Territories of California, Colorado, Kansas, Nebraska, Nevada, Oregon, Texas, Arizona, Idaho, Montana, New Mexico, Utah,

Washington, and Wyoming, in charge of George M. Wheeler, Captain Corps of Engineers, U. S. A.; Report of M. M. Macomb, First Lieutenant, Fourth U. S. Artillery, in temporary charge; being Appendix UU of the Annual Report of the Chief of Engineers for 1883. Washington: Government Printing Office. 1883.

8°. 2379–2381 pp., 2 ll.

1884.

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8°. v, 2375–2378 pp.

FINAL REPORTS OR MONOGRAPHS.

[Vignette] [in Vol. I only]. Engineer Department, U. S. [Vols. III and V, United States] Army. Report upon United States Geographical Surveys [Vols. III and V, Report upon Geographical and Geological Explorations and Surveys] west of the one hundredth meridian, in charge of Capt. [Vols. II, III, IV–VII, First Lieut.] Geo. M. Wheeler, Corps of Engineers, U. S. Army, under the direction of the Chief of Engineers [Vols. II, III, IV–VII, Brig. Gen. A. A. Humphreys, Chief of Engineers; Vol. III, Supplement, Brig. Gen. H. G. Wright, Chief of Engineers] U. S. Army. Published by authority of the honorable the Secretary of War [Vol. III, Hon. Wm. W. Belknap, Secretary of War], in accordance with acts of Congress of June 23, 1874, and February 15, 1875. In seven volumes and one supplement [Vols. II, III, Supplement IV, VI, VII, in seven volumes; Vols. III and V, in six volumes], accompanied by one topographical and one geological atlas. Volume 1 [II–III, III Supplement, IV–VII], Geographical Report. [Vol. II, Astronomy and barometric hypsometry; Vols. III and III, Supplement, Geology; Vol, IV, Paleontology; Vol. V, Zoology; Vol. VI, Botany; Vol. VII, Archæology]. Washington: Government Printing Office. 1889 [Vols. II and IV, 1877; Vols. III and V, 1875; Vol. III, Supplement, 1881; Vol. VI, 1878; Vol. VII, 1879.]

4°. 8 Vols.

I. Geographical Report. 1889, 780 pp., 24 pls., 17 illustrations (maps, etc.).

[Part I], pp. 9–512.

Introduction, pp. 9–20.

Areas occupied, pp. 21–146, pls. i–xv.

Itinerary of Colorado Grand Canyon and River trip of 1871, pp. 147–171, pls. xvi–xxiv, map.

Population, industries, communications, irrigation, and artesian wells, pp. 172–210.

Indians, pp. 211–222.

Land classification, pp. 223–227.

Appendix A. Special list of latitudes, longitudes, altitudes, etc., of certain military posts west of the 100th meridian, pp. 229–233.

Appendix B. Description of atlas sheets, pp. 235–329.

Appendix C. Methods of survey, pp. 331–404, 4 illustrations.

Appendix D. Notes on the survey and disposal of the public lands, pp. 405–413, map.

Appendix E. Considerations upon National Government land and marine surveys, pp. 415–479, map.

Appendix F. Memoir upon the voyages, discoveries, explorations, and surveys to and at the west coast of North America and interior of the United States west of the Mississippi River, between 1500 and 1880, including later bibliographical and other references to determine latitudes, longitudes, and altitudes available for the basis of the permanent official topographic atlas of the United States, pp. 481–512, 10 maps.

Part II. Epitome of Warren's Memoir, giving a brief account of each of the exploring expeditions since A. D. 1800, by Lieut. Gouverneur K. Warren, corps of topographical engineers, U. S. A., pp. 513–597.

Part III. Explorations and surveys, 1857–1880, pp. 599–745.

Appendix G. Synoptical table of contents of quarto reports, in eight volumes, including vol. iii, Geology (supplement), pp. 747–755.

Synoptical list of maps, pp. 757–760.

Appendix H. Geographic-topographic surveys west of the one hundredth meridian, pp. 761–764.

Index, pp. 765–780.

II. Astronomy and barometric hypsometry. 1877. xiii, 571 pp, 15 ll, 22 pls.

Part I. Reports upon the astronomical determinations at main stations in Nevada, Utah, Montana, Wyoming, Nebraska, Colorado, and New Mexico, occupied in the years 1872, 1873, and 1874, by Dr. F. Kampf, John H. Clark, Wm. W. Maryatt, and Prof. T. H. Safford, pp. 1–491, pls. 1–6.

Part II. Results in barometric hypsometry, obtained during the years 1871, 1872, 1873, 1874, and 1875, reported by First Lieutenant Wm. L. Marshall, Corps of Engineers, U. S. Army, pp. 493–566, pls. vii–xxii.

Index, pp. 567–571.

III. Geology. 1875. 681 pp, 13 pls., and 4 ll., containing figs. 82, 101, 145, 167.

Part I. Report on the geology of portions of Nevada, Utah, California, and Arizona examined in the years 1871 and 1872, by G. K. Gilbert, A. M., pp. 17–187, pls. i–iii.

Part II. Report on the geology of route from St. George, Utah, to Gila River, Arizona, examined in 1871, by A. R. Marvine, pp. 189–225, pl. iv.

Part III. Report on the geology of portions of Utah, Nevada, Arizona, and New Mexico examined in the years 1872 and 1873, by Edwin E. Howell, pp. 227–301, pls. v–vii.

Part IV. Report on the geology of a portion of Colorado examined in 1873, by Prof. John J. Stevenson, pp. 303–501.

Part V. Report on the geology of portions of New Mexico and Arizona examined in 1873, by G. K. Gilbert, A. M., pp. 503–567, pls. viii–xii.

Part VI. Report upon mineralogical, agricultural, and chemical conditions observed in portions of Colorado, New Mexico, and Arizona in 1873, by Oscar Loew, Ph. D., pp. 569–661, pl. xiii.

Index, pp. 663–681.

III. Supplement—Geology. 1881. 420, xxxviii pp., 2 ll., 4 pls., and 3 maps.

Report upon geological examinations in southern Colorado and northern New Mexico during the years 1878 and 1879, by John J. Stevenson, Ph. D., professor of geology in the University of the city of New York, geological assistant to expeditions of 1873, 1878, and 1879, pp. 3–420, 3 maps.

Appendix. Report on the Carboniferous invertebrate fossils of New Mexico, by C. A. White, M. D., pp. i–xxxviii, pls. i–iv.

IV. Paleontology. 1877. xv, 3–219, iv, 1–36, 36a, 36b, 37–370 pp., 83 ll., 83 pls.

Part I. Report upon the invertebrate fossils collected in portions of Nevada, Utah, Colorado, New Mexico, and Arizona by parties of the expeditions of 1871, 1872, 1873, and 1874, by Charles A. White, M. D., xv, pp. 3–219, pls. 1–21.

Part II. Report upon the extinct vertebrata obtained in New Mexico by parties of the expedition of 1874, by Prof. E. D. Cope, pp. i–iv, 1–36, 36a, 36b, 37–370 pls. 22–83.

V. Zoology. 1875. 1021 pp., 3 ll., 45 pls.

Notes upon geographical distribution and variation with regard to the zoology of the Western United States, as relates more particularly to mammals and birds, by Dr. H. C. Yarrow, pp. 23–34, 2 ll.

Report upon the collections of mammals made in portions of Nevada, Utah, California, Colorado, New Mexico, and Arizona during the years 1871, 1872, 1873, and 1874 by Dr. Elliott Coues and Dr. H. C. Yarrow, pp. 35–129.

Report upon the ornithological collections made in portions of Nevada, Utah, California, Colorado, New Mexico, and Arizona during the years 1871, 1872, 1873, and 1874, by H. W. Henshaw, pp. 131–507, pls. i–xv.

Report upon the collections of batrachians and reptiles made in portions of Nevada, Utah, California, Colorado, New Mexico, and Arizona during the years 1871, 1872, 1873, and 1874, by Dr. H. C. Yarrow, pp. 509–584.

Synopsis of the reptiles and batrachians of Arizona, with critical and field notes and an extensive synonymy, by Dr. Elliott Coues, U. S. Army, pp. 585–633, pls. xvi–xxv.

Report upon the collections of fishes made in portions of Nevada, Utah, California, Colorado, New Mexico, and Arizona during the years 1871, 1872, 1873, and 1874, by Prof. E. D. Cope and Dr. H. C. Yarrow, pp. 635–703, pls. xxvi–xxxii.

Report upon the collections of Hymenoptera made in portions of Nevada, Utah, Colorado, New Mexico, and Arizona during the years 1872, 1873, and 1874, by E. T. Cresson, with list of Formicidæ by Edward Norton, pp. 705–736, pls. xxxiii–xxxiv.

Report upon the collections of diurnal Lepidoptera made in portions of Colorado, Utah, New Mexico, and Arizona during the years 1871, 1872, 1873, and 1874, with notes upon all species known to inhabit Colorado, by Theodore L. Mead, and a list of all species collected, by W. H. Edwards, pp. 737–794, pls. xxxv–xl.

Report upon new species of Zygænidæ and Bombycidæ collected in portions of California and Arizona during the years 1871, 1872, and 1873, by Richard H. Stretch, pp. 795–802.

Report upon the collection of Diptera made in portions of Colorado and Arizona during the year 1873, by C. R. Osten-Sacken, pp. 803–807.

Report upon the collections of Coleoptera made in portions of Nevada, Utah, California, Colorado, New Mexico, and Arizona during the years 1871, 1872, 1873, and 1874, by Henry Ulke, pp. 809–827, pl. xli.

Report upon the collections of Hemiptera made in portions of Nevada, Utah, California, Colorado, New Mexico, and Arizona during the years 1871, 1873, and 1874, by Prof. P. R. Uhler, pp. 829–842, 1 l., pl. xlii.

Report upon the collections of Orthoptera made in portions of Nevada, Utah, California, Colorado, New Mexico, and Arizona during the years 1871, 1872, 1873, and 1874, by Prof. Cyrus Thomas, pp. 843–908, pls. xliii–xlv.

Report upon the collections of Neuroptera and Pseudo-Neuroptera, made in portions of Colorado, New Mexico, and Arizona during the years 1872, 1873, and 1874, by Dr. H. A. Hagen, pp. 909–922.

Report upon the collections of terrestrial and fluviatile Mollusca made in portions of Colorado, Utah, New Mexico, and Arizona during the years 1872, 1873, and 1874, by Dr. H. C. Yarrow, pp. 923–954.

Report upon the collections of fresh-water leeches made in portions of Nevada, Utah, Colorado, New Mexico, and Arizona during the years 1872, 1873, and 1874, by Prof. A. E. Verrill, pp. 955–967.

Index, pp. 969–1021.

VI. Botany. 1878. xx, 404 pp., 30 pls.

Notes on Colorado, by J. T. Rothrock, surgeon and botanist to the expeditions of 1873, 1874, and 1875, pp. 1–14.

Notes on New Mexico, by J. T. Rothrock, surgeon and botanist to the expeditions of 1873, 1874, and 1875, pp. 15–37.

Notes on economic botany, by J. T. Rothrock, surgeon and botanist to the expeditions of 1873, 1874, and 1875, pp. 39–52.

Catalogue of plants collected in Nevada, Utah, Colorado, New Mexico, and Arizona, with descriptions of those not contained in Gray's Manual of the Northern U. S., and Vol. V, Geological Exploration of the Fortieth Parallel, by J. T. Rothrock, surgeon and botanist to the expeditions of 1873, 1874, and 1875, and the following botanists: Sereno Watson, Cambridge, Mass.; George Engelmann, M. D., St. Louis, Mo.; Prof. T. C. Porter, Easton, Pa.; M. S. Bebb, Fountaindale, Ill.; Wm. Boott, Boston, Mass.; George Vasey, M. D., Agricultural Department, Washington, D. C.; Prof. D. C. Eaton, Yale College, New Haven, Conn.; Thos. P. James, Cambridge, Mass.; Prof. Edward Tuckerman, Amherst, Mass., pp. 53–351.

[Notes on that portion of California traversed by the botanists of the expeditions of 1875, with enumeration of plants collected during that year], pp. 353–378.

Table of orders, p. 379.

Index, pp. 381–400.

Description of plates, pp. 401–404.

VII. Archæology. 1879. xxi, 497 pp., 20 pls., frontispiece. 1 map.

Part I. Reports upon archæological and ethnological collections, by Frederick W. Putnam, curator of the Peabody Museum, Cambridge, Mass., assisted by C. C. Abbott, M. D.; S. S. Haldeman, LL. D.; H. C. Yarrow, M. D.; H. W. Henshaw, and Lucien Carr, assistant curator Peabody Museum.

The southern Californians, pp. 1–31.

Report on the operations of a special party for making ethnological researches in the vicinity of Santa Barbara, Cal., with a short historical account of the region explored, by Dr. H. C. Yarrow, acting assistant surgeon, United States Army, pp. 32–47.

Chipped stone implements, by C. C. Abbott, pp. 49–69, pls. i–iv.

Mortars and pestles, by C. C. Abbott, pp. 70–92, pl. v.

Steatite cooking pots, plates, and food vessels, by C. C. Abbott, pp. 93–116, pl. vi.

The method of manufacture of soapstone pots, by Paul Schumacher, pp. 117–121.

Articles made of wood, by C. C. Abbott, pp. 122–124.

Smoking pipes of stone, by C. C. Abbott, pp. 125–134, pls. vii–ix.
Perforated stones, pp. 135–189, pl. x.
Miscellaneous objects made of stone, by C. C. Abbott, pp. 190–217.
Sculptures, pp. 218–221.
Implements and weapons made of bone and wood, by C. C. Abbott and F. W. Putnam, pp. 222–233, pl. xi.
Musical instruments made of bones, by C. C. Abbott, pp. 234–238.
Textile fabrics, basket work, etc., pp. 239–250, pl. xiv.
Ornaments, pp. 251–262, pl. xii.
Beads, by S. S. Haldeman, pp. 263–271, pl. xiii.
Iron implements and other articles obtained by contact with Europeans, pp. 272–276, pl. xv.
Observations on the crania from the Santa Barbara Islands, California, by Lucien Carr, assistant curator of the Peabody Museum American Archæology and Ethnology, pp. 277–292.
Translation from the Spanish of the account by the pilot Ferrel of the voyage of Cabrillo along the west coast of North America in 1542, with introductory notes by H. W. Henshaw, pp. 293–314. 1 map.
Part II. The pueblo ruins and the interior tribes, by Frederick W. Putnam, curator of the Peabody Museum, Cambridge, Mass., pp. 315–397.
Notes on the pueblos and their inhabitants, by G. Thompson, topographer, pp. 319–324.
The pueblo of Acoma, by Dr. Oscar Loew, pp. 325–326.
The pueblo of Taos, by H. C. Yarrow, assistant surgeon, U. S. A., pp. 327–330.
The pueblo of San Juan, by H. C. Yarrow, assistant surgeon, U. S. A., p. 331.
The cachina, a dance at the pueblo of Zuñi, by Francis Klett, assistant United States Geographical Surveys west of the one hundredth meridian, pp. 332–336.
Report on the ruins in New Mexico, by Dr. Oscar Loew, pp. 337–345.
Report on ruins visited in New Mexico, by Lieut. Rogers Birnie, jr., Thirteenth United States Infantry, pp. 346–350.
Report on the remains of population observed in northwestern New Mexico, by Prof. E. D. Cope, palæontologist of expedition of 1874, pp. 351–361.
Notice of a ruined pueblo and an ancient burial place in the valley of the Rio Chama, by H. C. Yarrow, assistant surgeon, U. S. A., pp. 362–365.
Notice of the pueblo Pintado and of other ruins in the Chaco Canyon, by Lieut. C. C. Morrison, Sixth United States Cavalry, pp. 366–369.
Cliff house and cave on Diamond Creek, New Mexico, by H. W. Henshaw, pp. 370–371.
Ruins in the Cañon de Chelle, pp. 372–373, pl. xx.
Notes on the implements of stone, pottery, and other objects obtained in New Mexico and Arizona, pp. 374–390, pls. xvi–xix.
Notes upon human crania and skeletons collected by the expeditions of 1872–1874, by Mark Sibley Severance and Dr. H. C. Yarrow, pp. 391–397.
Appendix. Linguistics, pp. 399–485.
Classification into 7 linguistic stocks of western Indian dialects contained in 40 vocabularies, by Albert S. Gatschet, pp. 403–485.
Index, pp. 487–497.

UNCLASSIFIED PUBLICATIONS.[a]

[1] Tables of camps, distances, lines of march, etc. Surveys and explorations in Nevada and Arizona, Lieut. Geo. M. Wheeler, U. S. Army, in charge. Washington, 1871. Oblong folio, 14 pp.

[2] Tables containing camps, distances, lines of march, latitudes, longitudes, attitudes, etc. Explorations and surveys west of the one hundredth meredian in Utah, Nevada, and Arizona, in charge of 1st Lieut. Geo. M. Wheeler, Corps of Engineers, assisted by 1st Lieuts. R. L. Hoxie and Wm. L. Marshall, Corps of Engineers. Accompanied by a map. Field season of 1872. Washington: Government Printing Office, 1873.

4°. 20 double pages, 1 l., map.

[3] [Vignette] Report upon the determination of the astronomical coordinates of the primary stations at Cheyenne, Wyoming Territory, and Colorado Springs, Colorado Territory, made during the years 1872 and 1873, geographical and geological explorations and surveys west of the one hundredth meridian. First Lieutenant George M. Wheeler, Corps of Engineers, in charge. Dr. F. Kampf and J. H. Clark, civilian astronomical assistants. Washington: Government Printing Office. 1874.

4°. 82 pp.

[4] Engineer Department, U. S. Army. Geographical and geological explorations and surveys west of the one hundredth meridian. First Lieut. Geo. M. Wheeler, Corps of Engineers, in charge. Report upon ornithological specimens collected in the years 1871, 1872, and 1873. Washington: Government Printing Office. 1874.

8°. 148 pp.

Report upon and list of birds collected by the expedition for explorations west of the one hundredth meridian in 1872; Lieut. Geo. M. Wheeler, Corps of Engineers, in charge, by Dr. H. C. Yarrow and Henry W. Henshaw, pp. 5–38.

I. An annotated list of the birds of Utah, by H. W. Henshaw, pp. 39–148.

[5] Engineer Department, U. S. Army. Geographical and geological explorations and surveys west of the one hundredth meridian. First Lieutenant Geo. M. Wheeler, Corps of Engineers, in charge. Catalogue of plants collected in the years 1871, 1872, and 1873, with descriptions of new species. Washington: Government Printing Office. 1874.

8°. 62 pp.

Botanical report, by Sereno Watson, pp. 5–19.

Preliminary report on the botany of central Colorado, pp. 23–62.

[6] Engineer Department, U. S. Army. Geographical and geological explorations and surveys west of the one hundredth meridian.

[a] Numbered arbitrarily for convenience in reference.

First Lieut. Geo. M. Wheeler, Corps of Engineers, in charge. Preliminary report upon invertebrate fossils collected by the expeditions of 1871, 1872, and 1873, with descriptions of new species. C. A. White, M. D. Washington: Government Printing Office. 1874.

8°. 27 pp.

[7] Geographical and geological explorations and surveys west of the 100th meridian. First Lieut. Geo. M. Wheeler, Corps of Engineers, in charge. Annotated list of birds of Utah, by H. W. Henshaw, ornithologist to the expedition. [From Annals New York Lyceum Natural History, Vol. XI.] Salem: Printed at the Salem Press. 1874.

8°. 14 pp.

[8] Geographical and geological explorations and surveys west of the 100th meridian. First Lieutenant G. M. Wheeler, Corps of Engineers, U. S. A., in charge. On the Plagopterinæ and the ichthyology of Utah, by Edward D. Cope, A. M. Reprinted from the Proceedings of American Philosophical Society, of Philad'a. Philadelphia: McCalla & Stavely, Prs., 237–9 Dock street. 1874.

8°. 14 pp.

[9] Engineer Department, U. S. Army. Geographical explorations and surveys west of the 100th meridian. First Lieut. Geo. M. Wheeler, Corps of Engineers, in charge. Systematic catalogue of vertebrata of the Eocene of New Mexico, collected in 1874. E. D. Cope, A. M., paleontologist. Washington: Government Printing Office. April 17, 1875.

8°. 37 pp.

[10] Engineer Department, U. S. Army. Instructions for taking and recording meteorological observations and for preserving and repairing the instruments; prepared for the use of field and astronomical parties of the expeditions for geographical surveys and explorations west of the one hundredth meridian. Compiled from Colonel Williamson's Use of the Barometer, and from the published instructions of the United States lake survey, with such additions and modifications as have been suggested by the experience of this survey; by First Lieutenants R. L. Hoxie and Wm. L. Marshall, Corps of Engineers, U. S. Army. To which are appended barometrical Tables I to XI, inclusive, of Professional Papers Corps of Engineers, No. 12. Washington: Government Printing Office. 1875.

16°. 64 pp.

[11] Geographical explorations and surveys west of the 100th meridian. Logarithm, Traverse, and Altitude tables. Washington: Government Printing Office. 1875.

8°. 30 pp.

[12] Engineer Department, U. S. Army. Instructions for taking, recording, and reducing meteorological observations, and for preserving and repairing the instruments. Prepared for the use of United States Geographical Surveys west of the 100th meridian. First Lieut. Geo. M. Wheeler, Corps of Engineers, U. S. Army, in charge. By First Lieutenants R. L. Hoxie and Wm. L. Marshall, Corps of Engineers, U. S. Army. To which are appended barometical Tables I to XI, inclusive, of Professional Papers, Corps of Engineers, No. 12. Washington: Government Printing Office. 1876.

8°. 88 pp.

[13] Field list of time stars, for the use of the U. S. Geographical Surveys west of the 100th meridian. Washington. 1878.

8°. 13 pp.

[14] U. S. Geographical Surveys west of the 100th meridian, Lieut. Geo. M. Wheeler, U. S. Army, in charge. List of longitudes, latitudes, and altitudes, being an extract from Vol. II. Washington. 1878.

4°. 22 pp., with blank tables.

[15] Engineer Department, United States Army. Catalogue of the mean declination of 2,018 stars between 0^h to 2^h and 12^h to 24^h right ascension, and 10° and 70° of north declination, for January 1, 1875. Prepared under the direction of First Lieut. Geo. M. Wheeler, Corps of Engineers, U. S. Army, in charge of U. S. Geographical Surveys west of the 100th meridian, by T. H. Safford, Ph. D., Field Memorial Professor of Astronomy in Williams College, Mass. Washington: Government Printing Office. 1879.

4°. 207 pp., 1 l.

[16] [Vignette.] Engineer Department, U. S. Army. Tables of geographic positions, azimuths, and distances, together with lists of barometric altitudes, magnetic declinations, and itineraries of important routes, prepared principally by First Lieut. M. M. Macomb, 4th U. S. Artillery, assistant, from data gathered by parties of the United States Geographical Surveys west of the 100th meridian, operating in the States and Territories of California, Colorado, Nebraska, Nevada, Oregon, Arizona, Idaho, Montana, New Mexico, and Wyoming, under the direction of Capt. Geo. M. Wheeler, Corps of Engineers, U. S. Army, in charge. 1883. Washington: Government Printing Office. 1885.

4°. 261 pp.

MAPS.

The following maps were issued in addition to those accompanying the annual reports and other publications. The greater part of these constitute parts of an atlas which it was intended should embrace all of the United States west of the one hundredth meridian. These sheets include topographic, geologic, and land-classification maps. The others are maps of special areas. All the atlas sheets and special maps issued are listed below.

ATLAS SHEETS.

TOPOGRAPHIC MAPS.

Topographic atlas sheets, arranged by States.

ARIZONA.

No.	Limiting meridians.	Limiting parallels.	Area.	Scale.	Remarks.
	° ′ ″ ° ′ ″	° ′ ° ′	*Sq. miles.*		
66.....	113 45 0 to 116 30 0	35 40 to 37 20	17,588	1 : 506880	Hachure map, 4 editions.
67[a].....	111 0 0 to 113 45 0	35 40 to 37 20	17,588	1 : 506880	2 editions, hachure and shaded.
75[a].....	111 0 0 to 113 45 0	34 0 to 35 40	17,952	1 : 506880	Hachure map.
76[a].....	108 15 0 to 111 0 0	34 0 to 35 40	17,952	1 : 506880	Do.
83[a].....	108 15 0 to 111 0 0	32 20 to 34 0	18,302	1 : 506880	Do.

CALIFORNIA.

38 B.....	119 15 0 to 120 37 30	41 30 to 42 20	4,075	1 : 253440	Hachure map.
38 D.....	119 15 0 to 120 37 30	40 40 to 41 30	4,127	1 : 253440	Do.
47 A[b]....	120 37 30 to 122 0 0	39 50 to 40 40	4,178	1 : 253440	Do.
47 B.....	119 15 0 to 120 37 30	39 50 to 40 40	4,178	1 : 253440	Do.
47 D	119 15 0 to 120 37 30	39 0 to 39 50	4,228	1 : 253440	Do.
47 B and 47 D.[b]	119 15 0 to 120 37 30	38 55 to 40 40	8,832	1 : 253440	2 editions; 1 with and 1 without hachure.
56 B.....	119 15 0 to 120 37 30	38 10 to 39 0	4,278	1 : 253440	Hachure map.
56 D.....	119 15 0 to 120 37 30	37 20 to 38 10	4,326	1 : 253440	Do.
57.....	116 30 0 to 119 15 0	37 20 to 39 0	17,209	1 : 506880	Do.
65.....	116 30 0 to 119 15 0	35 40 to 37 20	17,588	1 : 506880	Do.
65 D[b]....	116 30 0 to 117 52 30	35 40 to 36 30	4,420	1 : 253440	Do.
66.....	113 45 0 to 116 30 0	35 40 to 37 20	17,588	1 : 506880	Hachure map; 4 editions.
73.....	116 30 0 to 119 15 0	34 00 to 35 40	15,167	1 : 506880	Hachure map.
73 A[b]....	117 52 30 to 119 15 0	34 50 to 35 40	4,466	1 : 253440	Do.
73 C[b]....	117 52 30 to 119 15 0	34 0 to 34 50	4,510	1 : 253440	Do.

[a] Geologic map also issued for this area.
[b] Land classification map also issued for this area.

Topographic atlas sheets, arranged by States—Continued.

COLORADO.

No.	Limiting meridians.	Limiting parallels.	Area.	Scale.	Remarks.
	° ′ ″ ° ′ ″	° ′ ° ′	*Sq. miles.*		
52 D[a]	105 30 0 to 106 52 30	39 0 to 39 50	4,228	1 : 253440	Hachure map.
53 C	104 7 30 to 105 30 0	39 0 to 39 50	4,228	1 : 253440	Do.
61 A[a]	106 52 30 to 108 15 0	38 10 to 39 0	4,278	1 : 253440	2 editions; hachure map and contour map.
61 B[a]	105 30 0 to 106 52 30	38 10 to 39 0	4,278	1 : 253440	Hachure map, 3 editions.
61 C[a]	106 52 30 to 108 15 0	37 20 to 38 10	4,326	1 : 253440	3 editions, first without relief, other 2 hachured.
61 C[a]	107 15 0 to 107 57 0	37 42 to 38 7	1,100	1 : 126720	Contour map; 3 editions.
61 D[a]	105 30 0 to 106 52 30	37 20 to 38 10	4,326	1 : 253440	Hachure map.
62 A[a]	104 7 30 to 105 30 0	38 10 to 39 0	4,278	1 : 253440	Hachure map; 2 editions.
62 C[a]	104 7 30 to 105 30 0	37 20 to 38 10	4,326	1 : 253440	Do.
62 D	102 45 0 to 104 7 30	37 20 to 38 10	4,326	1 : 253440	Hachure map.
69	105 30 0 to 108 15 0	35 40 to 37 20	17,588	1 : 506880	Do.
69 B[b]	105 30 0 to 106 52 30	36 30 to 37 20	4,374	1 : 253440	Do.
70 A[b]	104 7 30 to 105 30 0	36 30 to 37 20	4,374	1 : 253440	Do.

IDAHO.

32 C[a]	112 22 30 to 113 45 0	42 20 to 43 10	4,023	1 : 253440	Hachure map.
32 D[a]	111 0 0 to 112 22 30	42 20 to 43 10	4,023	1 : 253440	Do.
41 A[a]	112 22 30 to 113 45 0	41 30 to 42 20	4,075	1 : 253440	Do.
41 B[a]	111 0 0 to 112 22 30	41 30 to 42 20	4,075	1 : 253440	Do.

NEVADA.

38 B	119 15 0 to 120 37 30	41 30 to 42 20	4,075	1 : 253440	Hachure map.
38 D[a]	119 15 0 to 120 37 30	40 40 to 41 30	4,127	1 : 253440	Do.
47 B	119 15 0 to 120 37 30	39 50 to 40 40	4,178	1 : 253440	Do.
47 D	119 15 0 to 120 37 30	39 0 to 39 50	4,228	1 : 253440	Do.
47 B and 47 D[a]	119 15 0 to 120 37 30	38 55 to 40 40	8,832	1 : 253440	2 editions; 1 with and 1 without hachures.
48 C	117 52 30 to 119 15 0	39 0 to 39 50	4,228	1 : 253440	Hachure map.
48 D	116 30 0 to 117 52 30	39 0 to 39 50	4,228	1 : 253440	Do.
49	113 45 0 to 116 30 0	39 0 to 40 40	16,814	1 : 506880	2 editions; hachure and shaded.
56 B	119 15 0 to 120 37 30	38 10 to 39 0	4,278	1 : 253440	Do.
57	116 30 0 to 119 15 0	37 20 to 39 0	17,209	1 : 506880	Do.
58	113 45 0 to 116 30 0	37 20 to 39 0	17,208	1 : 506880	4 editions; 3 hachured and 1 shaded.
65	116 30 0 to 119 15 0	35 40 to 37 20	17,588	1 : 506880	Hachure map.
66	113 45 0 to 116 30 0	35 40 to 37 20	17,588	1 : 506880	Hachure map; 4 editions.

[a] Land classification map also issued for this area.
[b] Land classification and geologic maps also issued for this area.

Topographic atlas sheets, arranged by States—Continued.

NEW MEXICO.

No.	Limiting meridians.	Limiting parallels.	Area.	Scale.	Remarks.
	° ′ ″ ° ′ ″	° ′ ° ′	*Sq. miles.*		
69.....	105 30 0 to 108 15 0	35 40 to 37 20	17,588	1 : 506880	Hachure map.
69 B[a]	105 30 0 to 106 52 30	36 30 to 37 20	4,374	1 : 253440	Do.
69 D[a]	105 30 0 to 106 52 30	35 40 to 36 30	4,420	1 : 253440	Hachure map; 3 editions.
70 A[b]	104 7 30 to 105 30 0	36 30 to 37 20	4,374	1 : 253440	Hachure map.
70 C[b]	104 7 30 to 105 30 0	35 40 to 36 30	4,420	1 : 253440	Do.
76[c]	108 15 0 to 111 0 0	34 0 to 35 40	17,952	1 : 506880	Do.
77[a]	105 30 0 to 108 15 0	34 0 to 35 40	17,952	1 : 506880	Do.
77 B[a]	105 30 0 to 106 52 30	34 50 to 35 40	4,465	1 : 253440	Do.
77 D[a]	105 30 0 to 106 52 30	34 0 to 34 50	4,510	1 : 253440	Do.
78 A[a]	104 7 30 to 105 30 0	34 50 to 35 40	4,465	1 : 253440	Do.
83[c]	108 15 0 to 111 0 0	32 20 to 34 0	18,302	1 : 506880	Do.
84[a]	105 30 0 to 108 15 0	32 20 to 34 0	18,302	1 : 506880	Do.
84 B[a]	105 30 0 to 106 52 30	33 10 to 34 0	4,554	1 : 253440	Hachure map; 2 editions.
84 C[a]	106 52 30 to 108 15 0	32 20 to 33 10	4,597	1 : 253440	Hachure map.

OREGON.

38 B.....	119 15 0 to 120 37 30	41 30 to 42 20	4,075	1 : 253440	Hachure map.

UTAH.

41 A[a]	112 22 30 to 113 45 0	41 30 to 42 20	4,075	1 : 253440	Hachure map.
41 B[a]	111 0 0 to 112 22 30	40 30 to 42 20	4,075	1 : 253440	Do.
49.....	113 45 0 to 116 30 0	39 0 to 40 40	16,814	1 : 506880	2 editions; hachure and shaded.
50[b]	111 0 0 to 113 45 0	39 0 to 40 40	16,814	1 : 506880	4 editions; 3 hachure 1 shaded.
58.....	113 45 0 to 116 30 0	37 20 to 39 0	17,208	1 : 506880	Do.
59[b]	111 0 0 to 113 45 0	37 20 to 39 0	17,208	1 : 506880	6 editions; 5 hachure 1 shaded.
66.....	113 45 0 to 116 30 0	35 40 to 37 20	17,588	1 : 506880	Hachure map; 4 editions.
67.....	111 0 0 to 113 45 0	35 40 to 37 20	17,588	1 : 506880	Hachure and shaded.

WYOMING.

32 D[a]	110 0 0 to 112 22 30	42 20 to 43 10	4,023	1 : 253440	Hachure map.

[a] Land classification map also issued for this area.
[b] Land classification and geologic maps also issued for this area.
[c] Geologic maps also issued for this area.

GEOLOGIC MAPS.

Geologic maps, arranged by States.[a]

ARIZONA.

No.	Limiting meridians.	Limiting parallels.	Area.	Scale.	Remarks.
	° ′ ″ ° ′ ″	° ′ ° ′	*Sq. miles.*		
66.....	113 45 0 to 114 48 40	35 40 to 37 20	6,960	1 : 506880	On sheet with part of 58.
67.....	111 0 0 to 113 45 0	35 40 to 37 20	17,588	1 : 506880	
75.....	111 0 0 to 113 45 0	34 0 to 35 40	17,952	1 : 506880	
76.....	108 15 0 to 111 0 0	34 0 to 35 40	17,952	1 : 506880	
83.....	108 15 0 to 111 0 0	32 20 to 34 0	18,302	1 : 506880	

COLORADO.

69 B	105 30 0 to 105 50 0	36 35 to 37 20	988	1 : 253440	On sheet with parts of 69 D, 77 B, and 78 A.
70 A[b]....	104 7 30 to 105 30 0	36 30 to 37 20	4,374	1 : 253440	

NEVADA.

58.....	113 45 0 to 114 50 40	37 20 to 39 0	6,860	1 : 506880	On sheet with portion of 66.
66.....	113 45 0 to 114 48 40	35 40 to 37 20	6,960	1 : 506880	On sheet with portion of 58.

NEW MEXICO.

69 B	105 30 0 to 105 50 0	36 35 to 37 20	988	1 : 253440	On sheet with parts of 69 D, 77 B, and 78 A.
69 D	105 30 0 to 105 58 0	35 40 to 36 30	935	1 : 253440	Northwest quarter not mapped.
70 A[b]....	104 7 30 to 105 30 0	36 30 to 37 20	4,374	1 : 253440	On sheet with parts of 69 B, 77 B, and 78 A.
70 C[b]....	104 7 30 to 105 30 0	35 40 to 36 30	4,420	1 : 253440	
76.....	108 15 0 to 111 0 0	34 0 to 35 40	17,952	1 : 506880	
77 B	105 5 0 to 106 15 0	35 15 to 35 40	1,834	1 : 253440	On sheet with parts of 69 B and 69 D.
78 A					
83.....	108 15 0 to 111 0 0	32 20 to 34 0	18,302	1 : 506880	

UTAH.

50.....	111 0 0 to 113 45 0	39 0 to 40 40	16,814	1 : 506880	
58.....	113 45 0 to 114 50 40	37 20 to 39 0	6,860	1 : 506880	On sheet with portion of 66.
59.....	111 0 0 to 113 45 0	37 20 to 39 0	17,208	1 : 506880	
66.....	113 45 0 to 114 48 40	35 40 to 37 20	6,960	1 : 506880	On sheet with portion of 58.
67.....	111 0 0 to 113 45 0	35 40 to 37 20	17,588	1 : 506880	

[a] Topographic maps issued for all these areas.
[b] Land classification map also issued for this area.

LAND CLASSIFICATION MAPS.

Land classification maps, arranged by States.

CALIFORNIA.

No.	Limiting meridians.	Limiting parallels.	Area.	Scale.	Remarks.
	° ′ ″ ° ′ ″	° ′ ° ′	*Sq. miles.*		
38 D	119 15 0 to 120 37 30	40 40 to 41 30	4,127	1 : 253440	Hachure map.
47 A	120 37 30 to 122 0 0	39 50 to 40 40	4,178	1 : 253440	Do.
47 B and 47 D.	119 15 0 to 120 37 30	38 55 to 40 40	8,832	1 : 253440	Do.
65 D	116 30 0 to 117 52 30	35 40 to 36 30	4,420	1 : 253440	Hachure map; 3 editions.
73 A	117 52 30 to 119 15 0	34 50 to 35 40	4,465	1 : 253440	Hachure map.
73 C	117 52 30 to 119 15 0	34 0 to 34 50	4,510	1 : 253440	Do.

COLORADO.

52 D	105 30 0 to 106 52 30	39 0 to 39 50	4,228	1 : 253440	Hachure map.
61 A	106 52 30 to 108 15 0	38 10 to 39 0	4,278	1 : 253440	Contour map.
61 B	105 30 0 to 106 52 30	38 10 to 39 0	4,278	1 : 253440	Hachure map.
61 C	106 52 30 to 108 15 0	37 20 to 38 10	4,326	1 : 253440	Do.
61 C	107 15 0 to 107 57 0	37 42 to 38 7	1,100	1 : 126720	Contour map.
61 D	105 30 0 to 106 52 30	37 20 to 38 10	4,326	1 : 253440	Hachure map.
62 A	104 7 30 to 105 30 0	38 10 to 39 0	4,278	1 : 253440	Do.
62 C	104 7 30 to 105 30 0	37 20 to 38 10	4,326	1 : 253440	Do.
69 B	105 30 0 to 106 52 30	36 30 to 37 20	4,374	1 : 253440	Do.
70 A	104 7 30 to 105 30 0	36 30 to 37 20	4,374	1 : 253440	Hachure map; 2 editions.

IDAHO.

32 C	112 22 30 to 113 45 0	42 20 to 43 10	4,023	1 : 253440	Hachure map.
32 D	111 0 0 to 112 22 30	42 20 to 43 10	4,023	1 : 253440	Do.
41 A	112 22 30 to 113 45 0	41 30 to 42 20	4,075	1 : 253440	Do.
41 B	111 0 0 to 112 22 30	41 30 to 42 20	4,075	1 : 253440	Do.

NEVADA.

38 D	119 15 0 to 120 37 30	40 40 to 41 30	4,127	1 : 253440	Hachure map.
47 B and 47 D.	119 15 0 to 120 37 30	38 55 to 40 40	8,832	1 : 253440	Do.

NEW MEXICO.

69 B	105 30 0 to 106 52 30	36 30 to 37 20	4,374	1 : 253440	Hachure map.
69 D	105 30 0 to 106 52 30	35 40 to 36 30	4,420	1 : 253440	Do.
70 A[a]	104 7 30 to 105 30 0	36 30 to 37 20	4,374	1 : 253440	Hachure map; 2 editions.
70 C[a]	104 7 30 to 105 30 0	35 40 to 36 30	4,420	1 : 253440	Hachure map.
77	105 30 0 to 108 15 0	34 0 to 35 40	17,952	1 : 506880	Do.
77 B	105 30 0 to 106 52 30	34 50 to 35 40	4,464	1 : 253440	Do.
77 D	105 30 0 to 106 52 30	34 0 to 34 50	4,510	1 : 253440	Do.
78 A	104 7 30 to 105 30 0	34 50 to 35 40	4,465	1 : 253440	Do.
84	105 30 0 to 108 15 0	32 20 to 34 0	18,302	1 : 506880	Do.
84 B	105 30 0 to 106 52 30	33 10 to 34 0	4,554	1 : 253440	Do.
84 C	106 52 30 to 108 15 0	32 20 to 33 10	4,597	1 : 253440	Do.

[a] Geologic map also issued for these areas.

Land classification maps, arranged by States—Continued.

UTAH.

No.	Limiting meridians.	Limiting parallels.	Area.	Scale.	Remarks.
	° ′ ″ ° ′ ″	° ′ ° ′	*Sq. miles.*		
41 A	112 22 30 to 113 45 0	41 30 to 42 20	4,075	1 : 253440	Hachure map.
41 B	111 0 0 to 112 22 30	41 30 to 42 20	4,075	1 : 253440	Do.

WYOMING.

32 D	110 0 0 to 112 22 30	42 20 to 43 10	4,023	1 : 253440	Hachure map.

SPECIAL MAPS.

Map of the United States west of the Mississippi River, showing drainage areas. Scale, 1 : 6,000,000.

Yosemite Valley, California. Hachure map. Limiting meridians, 119° 28′ and 119° 43′; limiting parallels, 37° 40′ and 37° 48′. Scale, 1 : 42,240.

Lake Tahoe region, California-Nevada. Hachure map. Limiting meridians, 119° 33′ and 120° 22′ 30″; limiting parallels, 38° 45′ and 39° 32′. Scale, 1 : 84,480.

Lake Tahoe region, California-Nevada. Hachure map. Limiting meridians, 119° 33′ and 120° 22′ 30″; limiting parallels, 38° 45′ and 39° 32′. Scale, 1 : 126,720.

Washoe district, Nevada, showing Comstock lode. Limiting meridians, 119° 34′ and 119° 41′ 30″; limiting parallels, 39° 13′ 30″ and 39° 20′ 20″. Scale, 1 : 24,000.

Washoe district, Nevada. Contour map. Limiting meridians, 119° 32′ 30″ and 119° 43′; limiting parallels, 39° 10′ 10″ and 39° 21′ 15″. Scale, 1 : 24,000.

Washoe mining region, Nevada. Contour map, 2 sheets. Limiting meridians, 119° 32′ 30″ and 119° 43′; limiting parallels, 39° 10′ 10″ and 39° 21′. Scale, 1 : 18,000.

Reconnaissance map of southeastern Nevada. Scale, 1 : 760,320.

Map showing extent of Lake Bonneville, Utah-Nevada. Shaded map. Limiting meridians, 111° 45′ and 115° 15′; limiting parallels, 37° 30′ and 42°. Scale, 1 : 887,040.

Map showing distances, camps, etc., in Utah, field season of 1872. Scale, 1 : 950,400.

Map of part of southwestern New Mexico. Limiting meridians, 106° 36′ and 109°; limiting parallels, 32° 20′ and 34°. Scale, 1 : 633,600.

INDEX.

AL=Lands of the Arid region (see p. 42).
BH=Geology of Black Hills of Dakota (see p. 42).
ECR=Exploration of Colorado River of the West (see p. 41).
Eth, I, etc=Contributions to American Ethnology, vol I, etc. (see p. 43).
HM=Geology of Henry Mountains of Utah (see p. 42).
HP=Geology of High Plateaus of Utah (see p. 42).
H, Ann 1, etc=Annual Reports of Hayden Survey (see pp. 9–20).
H, Bull, vol I, etc=Bulletins of the Hayden Survey (see pp. 21–30).
H, Miscl 1, etc=Miscellaneous publications of the Hayden Survey (see pp. 31–32).
H, Mon I, etc=Monographs or final reports of the Hayden Survey (see pp. 20–21).
H, Uncl 1, etc=Unclassified publications of the Hayden Survey, numbered arbitrarily (see pp. 32–34).
K, 1871 etc=Administrative reports of the King Survey for the year mentioned (see pp. 38–39).
K, I, etc=Final Reports of the King Survey (see p. 39).
LOR=Land Office Report for the year mentioned.
PBH=Preliminary Report on the Paleontology of the Black Hills (see p. 42).
UM=Geology of Uinta Mountains (see p. 42).
W, 1869, etc=Annual reports of Wheeler Survey for the year mentioned (see pp. 44–52).
W, I, etc=Volumes of Final Reports of Wheeler Survey (see pp. 52–56).
W, Uncl 1, etc=Unclassified publications of the Wheeler Survey, numbered arbitrarily (see pp. 57–59).

Abajo Mountains, Utah, geology of.....H, Ann 10, pp 189–193, 239; H, Bull, vol III, No 3, p 558
Abbott (C. C.), articles made of wood, found in graves in southern California.....W, VII, pp 122–124
miscellaneous objects made of stone, from graves of southern California.....W, VII, pp 190–217
mortars and pestles from graves in southern California.....W, VII, pp 70–92
musical instruments made of bones.....W, VII, pp 234–238
steatite cooking pots, plates, and food vessels.....W, VII, pp 93–116
stone implements of southern California.....W, VII, pp 49–69
Abbott (C. C.) and Putnam (F. W.), implements and weapons made of bone and wood.....W, VII, pp 222–233
Abiquiu region, New Mexico, geology of.....W, 1875, pp 101–103
Aborigines, houses and house-life of the American.....Eth, IV
of southern California.....W, VII, pp 1–31
(See, also, Ethnology and archæology.)
Acoma, New Mexico, pueblo at.....W, VII, pp 325–326
Acrididæ of North America, synopsis of.....H, Mon V
(See, also, Invertebrates.)
Agricultural resources of Arizona, eastern, and New Mexico, western.....W, III, pp 573–597
of Colorado.....H, Ann 3, pp 131–155; H, Ann 1–3, pp 229–251
southern, and New Mexico, northern.....W, III, Supp, pp 360–388; W, 1875, pp 129–139
of Colorado and Wyoming.....H, Ann 4, pp 191–264
of New Mexico, northern, and Colorado, southern.....W, III, Supp, pp 360–388; W, 1875, pp 129–139
western, and Arizona, eastern.....W, III, pp 573–597

Agricultural resources of Territories H, Ann 5, pp 205–279
of Wyoming and Colorado H, Ann 4, pp 191–264
Agricultural and physical features of southern California, especially of the Mohave Desert W, 1876, pp 214–222
Agriculture and economic botany of portions of southern California W, 1876, pp 202–213
Agrostis, North American species of, preliminary list and descriptions of ... H, Bull, vol VI, No 1, pp 149–164
(See, also, Plants.)
Aiken (C. E.), notes on ornithology of portions of New Mexico and Arizona W, 1875, pp 150–153
Ainslie (G.), notes on the grammar of the Nez Perces language H, Bull, vol II, No 3, pp 271–277
Alaska, Aleutian Islands, shell heaps of Eth, I, pp 41–91
Indian tribes of Eth, I, pp 1–106
natives of, notes on Eth, I, pp 111–116
Aleutian Islands, shell heaps of, on succession in Eth, I, pp 41–91
Alida district, Nevada, notes on W, 1871, p 47
Alkali, analysis of, from Wyoming, Independence Rock, Pacific Springs, and Sweetwater Valley H, Ann 4, pp 187, 188
Alkaline efflorescences, analysis of, from Wyoming, Sweetwater district .. H, Ann 11, p 150
Allen (G. N.), irrigation in Santa Clara Valley, California ... H, Ann 5, pp 269–271
Allen (J. A.), description of a fossil passerine bird from the insect-bearing shales of Colorado H, Bull, vol IV, No 2, pp 443–445
geographical distribution of the Mammalia, considered in relation to the principal ontological regions of the earth, and the laws that govern the distribution of animal life H, Bull, vol IV, No 2, pp 313–377
geographical variation among North American mammals, especially in respect to size H, Bull, vol II, No 4, pp 308–344
history of North American Pinnipeds H, Miscl 12
history of the American bison H, Ann 9, pp 443–558
on the Coatis (genus Nasua Storr) H, Bull, vol V, No 2, pp 153–174
on the species of the genus Bassaris H, Bull, vol V, No 3, pp 331–340
preliminary list of works and papers relating to the mammalian orders Cete and Sirenia H, Bull, vol VI, No 3, pp 399–562
sexual, individual, and geographical variation in Leucosticte tephrocotis H, Bull, vol II, No 4, pp 345–350
synonymatic list of American Sciuri or arboreal squirrels .. H, Bull, vol IV, No 4, pp 877–887
Allen (J. A.) and Coues (E.), monograph of North American Rodentia .. H, Mon XI
Alluvium, analyses of, from Nebraska, Blue River, Dakota City, Elkhorn River, Platte River, and Republican River H, Ann 8, p 258
of Nebraska H, Ann 8, pp 256–259
of New Mexico, north-central W, III, Supp, pp 182–188
(See, also, Soils.)
Alpheus, synopsis of North American species of ... H, Bull, vol IV, No 1, pp 189–199
(See, also, Invertebrates.)
Alpine district, California, notes on W, 1878, pp 85–86
Alpine regions of Rocky Mountains, Coleoptera of .. H, Bull, vol IV, No 2, pp 447–480
Altaite, analysis of, from Colorado, Gold Hill, Red Cloud mine H, Ann 10, p 136
Altitude, logarithm and traverse tables W, Uncl 11
Altitudes, determination of, by means of the barometer W, Uncl 10, pp 29–64; W, Uncl 12, pp 43–88

Altitudes, determination of, methods of....H, Ann 10, pp 299–303
in Black Hills....BH, pp 551–553
in Colorado....H, Ann 7, pp 667–669, 678–681; H, Ann 8, pp 429–433, 441–442; H, Bull, vol I, ser I, No 2, pp 75–77
Sangre de Cristo Range....H, Ann 9, pp 299–300
in Dakota, Minnesota, and Nebraska....H, Ann 6, pp 286–297
in Idaho, Wyoming, and Utah....H, Ann 6, pp 799–802
in Yellowstone Park....H, Ann 12, II, pp 457–463
list of..W, 1878, pp 68–78; W, Uncl 16, pp 121–261; H, Bull, vol v, No 3, pp 441–470
of datum points on the Great Lakes and in the Rocky Mountains....H, Ann 7, pp 629–659
west of Mississippi River....H, Miscl 1
west of one hundredth meridian....W, II, pp 556–566
Alum, analysis of, from Utah, Benada Peak, vicinity of....K, II, p 424
Amargosa mines, California, notes on....W, 1871, p 52
American aborigines, houses and house life of....Eth, IV
(See, also, Ethnology and archæology.)
Amulets, cranial, and prehistoric trephining....Eth, V
(See, also, Ethnology and archæology.)
Amyzon beds, vertebrata of....H, Mon III, pp 742–757
Amyzon shales, wading bird from....H, Bull, vol VI, No 1, pp 83–85
Analyses. (See name of substance.)
Ancient art. (See Art, ancient.)
Ancient ruins. (See Ruins, ancient.)
Andesite, analysis of, from Cziffar....K, VI, p 124
analysis of, from Germany, Siebengebirge....K, VI, p 124
from Hungary, Macska and Tokay....K, VI, p 124
from Italy, Monte Sieva....K, VI, p 124
from Java, Gunung Patna....K, VI, p 124
from Nevada, Comstock lode....K, III, p 90
Gold Hill Peak....K, VI, p 123
Pappoose Peak region....K, II, p 582
Wachoe Mountains....K, I, p 576; K, II, p 477
Washoe, Cortez Mountains, and Palisade Canyon....K, I, p 576
from Utah, Cedar Mountains....K, I, p 576; K, II, p 464
Grass Valley....W, III, p 650
of Colorado, occurrence and character of....H, Ann 10, pp 213–214
of Nevada, Washoe district....K, III, pp 30–33
Andesite and propylite, characteristics of....HP, pp 108–110
Animals, organization of, influence of external conditions of life upon...H, Ann 12, I, pp 473–514
Animas region, Colorado, physical features of....W, 1876, pp 100–102
Antelope district, Nevada, notes on....W, 1871, p 39
Antelope Hills, Nevada, geology of....K, II, pp 483–486
Aphididæ of the United States, notes on, with descriptions of species occuring west of the Mississippi River....H, Bull, vol V, No 1, pp 1–32
(See, also, Invertebrates.)
Apishpa Creek, Colorado, geology near....H, Ann 3, p 53; H, Ann 1–3, p 153
Appalachian Mountains, elevations in....H, Miscl 1 (4th ed), pp 112–116
Aquarius Plateau, Utah, geology of....HP, pp 284–298
Aqui Mountains, Utah, geology of....K, II, pp 456–460
Arachnida, description of new....H, Ann 6, p 740
(See, also, Invertebrates.)

Aranea collected in Colorado in 1875, report on ...H, Bull, vol III, No 2, pp 477–529
(See, also, Invertebrates.)
Archean rocks of Basin Ranges W, III, pp 186–187
of Black Hills BH, pp 45–65
of Colorado; Eagle, Grand, and Gunnison rivers H, Ann 8, pp 106–109
Front Range K, II, pp 18–21
Grand River district H, Ann 9, pp 64–69
south-central, and New Mexico, north-central W, III, Supp, pp 66–72
Spanish Peaks region W, 1879, p 274
of Fortieth Parallel region K, I, pp 15–98
correlation of K, I, pp 99–111
orography of K, I, pp 729–731
of Idaho, eastern, and Wyoming, western H, Ann 11, pp 474–477
of New Mexico, north-central, and Colorado, south-central .. W, III, Supp, pp 66–72
of Utah, Grand River district H, Ann 9, pp 64–69
of Wyoming, Green River region H, Ann 11, p 613
Laramie Hills K, II, pp 7–18
western, and Idaho, eastern H, Ann 11, pp 474–477
Archean topography of Fortieth Parallel area K, I, pp 122–126
Archæology. (See Ethnology and Archeology.)
Ardeidæ, synopsis of American genera of Ciconiidæ and H, Bull, vol IV, No 1, pp 219–251
(See, also, Vertebrates.)
Arfvedsonite, analysis of, from Colorado, El Paso County H, Ann 10, p 138
Argillite, analysis of, from Nevada, Cottonwood Canyon K, II, p 720
Arid region, lands of AL
Arizona, agricultural capacities of western New Mexico and eastern W, III, pp 573–597
batrachians. (See Reptiles and batrachians.)
birds collected in California, Nevada, Utah, New Mexico, Colorado, and .. W, V, pp 131–507
list, annotated, of W, 1875, pp 153–166
of portions of New Mexico and W, 1875, pp 149–153
of western and eastern New Mexico W, Uncl 4, pp 95–148
Bombycidæ and Zygænidæ collected in portions of California and W, V, pp 795–802
Bradshaw district, notes on W, 1871, p 55
butterflies collected in southern Utah and northern H, Bull, vol IV, No 1, pp 253–258
Camp Apache, geology between Gila Valley and W, III, pp 218–225
geology between Little Colorado River and W, III, pp 215–218
Camp Verde, geology between St. George, Utah, and W, III, pp 193–208
climate, timber, irrigation, etc., in portions of New Mexico and W, 1875, pp 117–129
Chelly Canyon, ruins and cliff dwelling in H, Ann 10, pp 420–425
Coleoptera collected in portions of California, Nevada, Utah, Colorado, New Mexico, and W, V, pp 809–827
Diptera collected in Colorado and W, V, pp 803–807
elevations in H, Bull, vol V, No 3, p 454; H, Miscl 1 (3d ed), p 15; H, Miscl 1 (4th ed), pp 54–55
eruptive rocks of New Mexico and W, III, pp 638–651
explorations in Nevada and W, 1871
fishes collected in portions of California, Nevada, Utah, Colorado, New Mexico, and W, V, pp 635–703

Arizona, geologic map of. See Map, geologic, Arizona
geologic section in. See section, geologic, in Arizona
geology of portions of Nevada, Utah, New Mexico, and.....W, III, pp 227–301
of portions of New Mexico and W, III, pp 503–567
Gila Valley, climate of W, III, pp 598–601
geology between Camp Apache and W, III, pp 218–225
Hemiptera collected in California, Nevada, Utah, New Mexico, Colorado, and portions of..... W, V, pp 829–841
collected in Colorado, New Mexico, California, and..W, 1877, pp 1322–1334
Hualapais district, Arizona, notes on W, 1871, pp 53–54; W, 1876, pp 55–56
Hymenoptera collected in portions of New Mexico, Colorado, Utah, Nevada, and.....W, V, pp 705–736
Indians of Nevada and.....W, 1871, pp 27–29, 74–76
of Nevada, California, and, ethnographic observations on.....H, Ann 10, pp 461–478
invertebrate fossils of portions of Nevada, Utah, Colorado, New Mexico, and W, IV, pp 1–219
leeches, fresh-water, collected in portions of Nevada, Utah, Colorado, New Mexico, and.....W, V, pp 955–967
Little Colorado River, geology between Camp Apache and....W, III, pp 215–218
geology between Verde River and.....W, III, pp 209–215
mammals collected in portions of California, Nevada, Utah, New Mexico, Colorado, and.....W, V, pp 35–129
map, geologic, of. (See Map, geologic, Arizona.)
map, topographic, of. (See Map, topographic, Arizona.)
Martinez district, notes on W, 1871, p 56
Maynard district, notes on W, 1871, p 54
mining districts of W, 1871, pp 53–59; W, 1876, pp 55–56, 60–61
Mollusca, terrestial and fluviatile, collected in portions of Utah, New Mexico, Colorado, and.....W, V, pp 923–954
Neuroptera and pseudo-Neuroptera collected in portions of Colorado, New Mexico, and W, V, pp 909–922
Orthoptera collected in portions of California, Nevada, Utah, Colorado, New Mexico, and W, V, pp 843–908
Pinal Mountains, mines in, notes on.....W, 1871, pp 56–59
plants of.....W, III, pp 603–609
of Nevada, Utah, Colorado, New Mexico, and, catalogue of, with descriptions of new species.....W, VI, pp 53–297
of Utah, Nevada, and.....W, Uncl 5, pp 5–19
plateau region of New Mexico and, geology of.....W, III, pp 542–567
pottery, implements, etc., obtained in New Mexico and W, VII, pp 374–390
range region in New Mexico and, geology of W, III, pp 507–524
reptiles and batrachians collected in California, Nevada, and.....W, 1878, pp 206–226
collected in portions of California, Nevada, Utah, Colorado, New Mexico, and.....W, V, pp 509–584
synopsis of.....W, V, pp 585–633
ruins, ancient, near San Juan River.....H, Bull, vol II, No 1, pp 25–45
section, geologic, in. (See Section, geologic, in Arizona.)
Tiger district, notes on W, 1871, pp 54–55
topographic map of. (See Map, topographic, Arizona.)
tribes, ancient, of, bead ornaments used by.....H, Bull, vol II, No 1, pp 67–69
Verde River, geology between Little Colorado River and.....W, III, pp 209–215
volcanic region in New Mexico and, geology of.....W, III, pp 525–541

Arizona, Vulture mine, notes on.....W, 1871, p 56
Weaver district, notes on.....W, 1871, p 55
Zygænidæ and Bombycidæ collected in portions of California and W, v, pp 795–802
(See, also, Basin ranges.)
Arkansas, elevations in.....H, Miscl 1 (3d ed), p 5; H, Miscl 1 (4th ed), pp 55–56
locusts in.....H, Uncl 14, p 64
Arkansas River, Colorado, agriculture near.....H, Ann 4, pp 213–217
cultivable areas in basin of.....H, Ann 10, pp 326–328
geology near.....H, Ann 3, pp 48–49; H, Ann 1–3, pp 148–149
Arkansas Valley, Colorado, geology of.....H, Ann 7, pp 239–242; W, 1875, pp 97–98
glaciation in upper.....H, Ann 8, pp 47–53
Art, ancient, in Colorado, northwestern.....H, Bull, vol II, No 1, pp 65–66
in Wyoming, Bridger Basin.....H, Ann 6, pp 651–653
(See, also, Ethnology and archæology.)
Artemia fertilis Verrill from Great Salt Lake, Utah, notes on..H, Ann 12, I, pp 459–463
(See, also, Invertebrates.)
Artemia muehlhausenii, relation of Artemia salina and, to genus Branchipus Schaefer.....H, Ann 12, I, pp 466–473
(See, also, Invertebrates.)
Artemia salina, parthenogenesis in.....H, Ann 12, I, pp 463–466
relation to Artemia muehlhausenii and to genus Branchipus Schaefer..H, Ann 12, I, pp 466–473
(See, also, Invertebrates.)
Artesian borings in Wyoming, along line of Union Pacific Railroad.....H, Bull, vol III, No 1, pp 181–185
Artesian wells of Great Basin.....W, III, pp 115–117
of Western States and Territories.....W, I, pp 206–210
Ashley Creek Basin, Utah, geology of.....K, II, pp 291–298
Asia and Asia Minor, springs, thermal, of.....H, Ann 12, II, pp 339–344
Aspen Mountain district, Colorado, structure of.....UM, pp 209–210
Aspen Ridge, Idaho, geology of.....H, Ann 11, pp 558–559
Asphaltum in California, San Fernando Range.....W, 1876, pp 164–166
Astronomical observations at Colorado Springs, Colorado, and Cheyenne, Wyoming.....W, Uncl 3
in Colorado, Utah, Wyoming, Nevada, Montana, and New Mexico.....W, 1874, pp 13–102
in Nevada, Utah, Montana, Wyoming, Nebraska, Colorado, and New Mexico.....W, II, pp 1–491
Astrophyllite, analysis of, from Colorado.....H, Ann 10, p 138
Atlas sheets, description of.....W, 1876, pp 42–46
list of. (See pages 60–62 of this bulletin.)
Aubrey group, exposures of.....UM, pp 54–55
of Uinta Mountains.....UM, pp 148–150
Aubrey limestone of Basin Ranges.....W, III, pp 177–178
Aughey (S.), catalogue of land and fresh-water shells of Nebraska.....H, Bull, vol III, No 3, pp 697–704
notes on the nature of the food of the birds of Nebraska.....H, Uncl 14, App, pp 13–62
superficial deposits of Nebraska.....H, Ann 8, pp 243–269
Augite-andesite, analysis of, from Nevada, Palisade Canyon.....K, II, p 587
of Nevada, microscopical petrography of.....K, VI, pp 221–228
of Nevada Plateau.....K, I, pp 571–577
Augite-trachyte, analysis of, from Nevada, Sheep Corral Canyon.....K, II, p 838

Augite-trachyte, analysis of, from Nevada, Truckee Ferry K, II, p 833
analysis of, from Norway K, VI, p 146
Augusta Mountains, Nevada, geology of K, II, pp 649–659
granite of K, I, pp 79–80
Austin (C. F.), list of Hepaticæ collected in the Southwest W, VI, p 350
plants determined by W, Uncl 5, p 62
Austin (E. P.), report of W, 1871, pp 91–92
Austria, primitive lapidarian sculptures in Eth, V, pp 22–25
Awapa Plateau, Utah, geology of HP, pp 272–276
Aztec district, New Mexico, notes on W, 1876, pp 66–67
Bannock Range, Idaho, geology of H, Ann 11, pp 570–572
Banner district, California, notes on W, 1876, pp 57–58
Bannister (H. M.), report of a geological reconnaissance along the Union Pacific Railroad H, Ann 6, pp 519–541
Barber (E. A.), ancient art in northwestern Colorado H, Bull, vol II, No 1, pp 65–66
bead ornaments employed by ancient tribes of Utah and Arizona H, Bull, vol II, No 1, pp 67–69
comparative vocabulary of Utah dialects H, Bull, vol III, No 3, pp 533–545
language and utensils of the modern Utes H, Bull, vol II, No 1, pp 71–76
Barometer, use of, in determining altitudes W, Uncl 10, pp 29–64; W, Uncl 12, pp 43–88
Barometric hypsometry, results of, 1871–1875 W, II, pp 493–566
Basalt, analysis of, from Arizona, Canyon Butte W, III, pp 647, 651
analysis of, from Arizona, Peloncillo Mountains W, III, pp 647, 651
from California, El Paso Mountain W, III, pp 650, 651
from Colorado, Buffalo Peak K, I, p 676
from Nevada, Diabase Hills K, II, p 812
Ombe Range K, I, p 676; K, II, p 500
Wadsworth K, I, p 676
from New Mexico, Abiquiu W, 1875, p 101
characteristics of HP, pp 110–112
of Arizona and New Mexico W, III, pp 639–640
of Basin Ranges W, III, pp 253–255
of Colorado, Eagle, Grand, and Gunnison rivers, adjacent to H, Ann 8, pp 171–174
occurrence and character of H, Ann 10, pp 246–251
Sawatch Range H, Ann 9, pp 162–163
of Fortieth Parallel region K, I, pp 653–676
microscopical petrography of K, VI, pp 229–258
of New Mexico, north-central W, III, Supp, pp 167–172
thin section of, from Colorado, North Park, vicinity of K, VI, pl XI
from Nevada, Augusta Mountains K, VI, pl XI
Truckee Valley K, VI, pl X
Washoe K, VI, pl X
Basaltic rock, thin section of, from Nevada, River Range K, VI, pl XI
Basin Ranges, glaciation in W, III, pp 86–104
minerals of W, III, pp 257–264
mountain systems of W, III, pp 231–248
mountains of W, III, pp 21–42
valleys of W, III, pp 249–252
valleys and canyons of W, III, pp 63–85
Basket work, textile fabrics, etc., of Indians of southern California W, VII, pp 239–250

(See, also, Ethnology and archæology.)

Bassaris, species of, descriptions of H, Bull, vol v, No 3, pp 331–340
(See, also, Vertebrates.)
Batrachians and reptiles collected in California, Arizona, and Nevada..... W, 1878, pp 206–226
collected in portions of Nevada, Utah, California, Colorado, New Mexico, and Arizona W, v, pp 509–584
of Arizona, synopsis of..... W, v, pp 585–633
of Permian beds of Texas, some new..... H, Bull, vol vi, No 1, pp 79–82
(See, also, Vertebrates; Vertebrates, fossil.)
Battle Mountain district, Nevada, mining in K, iii, pp 317–319; W, 1871, p 40
Battle Mountains, Nevada, geology of K, ii, pp 666–672
Bead ornaments employed by ancient tribes of Utah and Arizona.... H, Bull, vol ii, No 1, pp 67–69
(See, also, Ornaments; Ethnology and archæology.)
Beads of Indians of southern California..... W, vii, pp 263–271
(See, also, Ornaments; Ethnology and archæology.)
Beaman (J. W.), meteorological observations in Wyoming H, Ann 4, pp 488–501
meteorological report on Yellowstone region H, Ann 5, pp 501–524
Bear Lake Plateau and Valley, Idaho-Utah, geology of H, Ann 11, pp 582–589
Bear Lodge region, South Dakota, geology of..... BH, pp 283–289
Bear River, geology from Salt Lake Valley to..... H, Ann 4, pp 147–161
topography of basin of H, Ann 11, pp 697–702
Bear River group, character and fauna of..... H, Mon ii, pp 36–41
extent and age of..... H, Ann 7, pp 439–442; H, Ann 8, p 144
of Wyoming..... H, Bull, vol i, ser i, No 2, pp 13–16
Bear River Range, Idaho-Utah, geology of..... H, Ann 11, pp 598–600
Bear River region, geology of..... H, Ann 4, pp 44–54; H, Ann 5, pp 150–156; K, ii, pp 326–339; H, Ann 11, pp 573–603
Bear Valley mining district, California, notes on..... W, 1879, p 191
Beaver, Utah, astronomical determinations at..... W, ii, pp 57–71
Beaver Creek, Wyoming, geology near..... H, Ann 11, p 553
Bechler (G. R.), geographical report on Middle and South Parks, Colorado, and adjacent region..... H, Ann 9, pp 369–440
topographical report on Yampa River district H, Ann 10, pp 359–378
Bees allied to Melissodes and Anthophora, generic arrangement of..... H, Bull, vol v, No 3, pp 471–479
(See, also, Invertebrates.)
Beetles collected in Colorado, list of..... H, Ann 9, pp 811–815
(See, also, Invertebrates.)
Belchoola language, vocabulary of..... Eth, i, pp 267–283
(See, also, Ethnology and archæology.)
Belmont, Nevada, mining at..... K, iii, pp 394–404
Bembecidæ, description of tribe Stizini H, Bull, vol v, No 3, pp 341–347
(See, also, Invertebrates.)
Benton group. (See Fort Benton group.)
Bergland (E.), report on proposed diversion of Colorado River.. W, 1876, pp 109–125
surveys by, report on W, 1877, pp 1250–1252; W, 1878, pp 103–106
Bessels (E.), the human remains found among the ancient ruins of southwestern Colorado and northern New Mexico H, Bull, vol ii, No 1, pp 47–63
Bibliography of birds of Nevada..... H, Bull, vol vi, No 2, pp 252–256
of Cete and Sirenia H, Bull, vol vi, No 3, pp 399–562
of Crustaceans, phyllopod H, Ann 12, i, pp 453–457
of invertebrate paleontology, North American H, Bull, vol v, No 1, pp 143–152; H, Miscl 10

Bibliography of Klamath Indians....Eth, II, pt 1, pp xii–xv
of locusts of America....H, Uncl 14, App, pp 273–279
of mammals, North American....H, Mon XI, pp 951–1081
of minerals of Colorado....H, Ann 10, pp 158–159
of Muridæ....H, Mon XI, pp 255–264
of ornithology, American....H, Bull, vol v, No 2, pp 239–330; H, Bull, vol v, No 3, pp 521–1066; H, Miscl 11, pp 567–784
of Phalenidæ of the United States....H, Mon X, pp 595–598
of Rhizopods, fresh-water....H, Mon XII, pp 297–319
of springs, thermal, and geysers....H, Ann 12, II, pp 427–449
Bighorn Range, Wyoming, geology of...LOR, 1868, pp 224–225; H, Ann 2, pp 70–71
Big Thompson Creek, Colorado, geology near....H, Ann 3, pp 24–26; H, Ann 1–3, pp 124–126; H, Ann 7, pp 20–27
Bindheimite, analysis of, from Nevada, Montezuma Range....K, II, p 759
Binney (W. G.), list of terrestrial mollusks collected by Lieut. W. L. Carpenter, U. S. Army, for the United States Geological Survey of Colorado, 1873....H, Ann 7, p 523
Biotite, thin section of, from propylite of Nevada, Cortez Range....K, VI, pl 5
Bird, fossil, from Amyzon shales....H, Bull, vol VI, No 1, pp 83–85
from insect-bearing shales of Colorado, description of....H, Bull, vol IV, No 2, pp 443–445
Birds of Arizona, annotated list of....W, 1875, pp 153–166
of Arizona, eastern, and New Mexico, western....W, Uncl 4, pp 95–148
portions of New Mexico and....W, 1875, pp 149–153
of Arizona and adjacent States....W, V, pp 131–507
of California, portion of....W, 1876, pp 224–278
portions of Nevada and, preliminary report on....W, 1878, pp 185–186
of California and adjacent States....W, V, pp 131–507
of California, Oregon, and Nevada....W, 1879, pp 282–335
of Colorado, Denver, vicinity of....W, Uncl 4, pp 56–69
Fort Garland, vicinity of....W, Uncl 4, pp 69–95
of Colorado and adjacent States....W, V, pp 131–507
of Colorado Valley, a repository of scientific and popular information concerning North American ornithology....H, Miscl 11
of Dakota, Fort Sisseton, notes on....H, Bull, vol V, No 1, pp 71–103
of Dakota and Montana, along forty-ninth parallel, field notes on....H, Bull, vol IV, No 3, pp 545–661
of Great Basin....K, IV, pp 303–643
of Guadeloupe Island....H, Bull, vol II, No 2, pp 183–195
of Idaho, Wyoming, and Utah....H, Ann 6, pp 670–715
of Michigan, annotated list of....H, Bull, vol V, No 3, pp 481–497
of Montana and Dakota, along forty-ninth parallel, field notes on....H, Bull, vol IV, No 3, pp 545–661
of Nebraska, food of, notes on....H, Uncl 14, App, pp 13–62
of Nevada, annotated list of....H, Bull, vol VI, No 2, pp 203–256
bibliography of....H, Bull, vol VI, No 2, pp 252–256
Carson City, vicinity of....W, 1877, pp 1307–1322
portions of California and, preliminary report on....W, 1878, pp 185–186
of Nevada and adjacent States....W, V, pp 131–507
of Nevada and Utah....W, Uncl 4, pp 5–33
of New Mexico, and portions of Arizona....W, 1875, pp 149–153
western, and Arizona, eastern....W, Uncl 4, pp 95–148
of New Mexico and adjacent States....W, V, pp 131–507
of Northwest....H, Miscl 3

Birds of Texas, Red River region H, Bull, vol III, No 3, pp 655–695
of Texas, Rio Grande, lower H, Bull, vol IV, No 1, pp 1–66; H, Bull, vol V, No 3, pp 371–440
of United States, western, geographical distribution and variation in W, V, pp 23–34
of Utah, annotated list of W, Uncl 4, pp 39–54; W, Uncl 7
of Utah and adjacent States W, V, pp 131–507
of Utah and Nevada W, Uncl 4, pp 5–33
of Utah, Wyoming, and Idaho H, Ann 6, pp 670–715
of Wyoming, list of H, Ann 4, pp 462–466
of Wyoming, Idaho, and Utah H, Ann 6, pp 670–715
worms, parasitic, found in the brain and other parts of H, Ann 6, pp 735–737
(See, also, Ornithology; Vertebrates.)
Birnie (R. jr.), report on ruins visited in New Mexico W, VII, pp 346–350; W, 1875, pp 178–180
work in charge of, reports on W, 1875, pp 41–43; W, 1876, pp 130–135; W, 1877, pp 1262–1272; W, 1878, pp 122–131; W, 1879, pp 237–253
Bishop Mountain conglomerate, exposures of UM, p 44
of Uinta Mountains UM, pp 169–171
Bison, American, history, habits, range, etc., of H, Ann 9, pp 443–588
(See, also, Vertebrates.)
Bitter Creek, Wyoming, Cretaceous uplift of K, II, pp 227–238
Bitter Creek series, character and fauna of H, Mon II, pp 30–36
exposures of UM, pp 45–47
extent and age of H, Ann 7, pp 435–439; H, Ann 8, pp 145–146
of Uinta Mountains UM, pp 162–166
of Western Territories H, Bull, vol I, ser, I, No 2, pp 8–13
of Wyoming H, Ann 6, pp 455–462
Black Butte quartzite of Uinta Mountains UM, pp 160–161
Black Hills, botany of BH, pp 529–537
geography and geology of LOR, 1868, pp 222–223; H, Ann 2, pp 68–69
geology and resources of, report on BH
mineral resources of BH, pp 223–324
paleontology of BH, pp 325–468; PBH
Black Rock Mountains, Nevada, geology of K, II, pp 790–797
Blackfoot Basin, Idaho, geology of H, Ann 11, pp 556–563
topography of H, Ann 11, pp 695
Blackfoot Range, Idaho, geology near H, Ann 11, pp 338–349
Blackmorite, analysis of, from Montana, Mount Blackmore H, Ann 6, p 169
Blind Spring district, California, notes on W, 1871, p 46; W, 1876, pp 47–48
Blue River Valley, Colorado, geology of H, Ann 7, pp 184–187
topographic features of H, Ann 9, pp 399–407
Bluff formation of Nebraska LOR, 1867, pp 139–140; H, Ann 1, pp 18–19
Blunt (S. E.), report of W, 1875, pp 43–44
Bodie district, California, notes on W, 1878, pp 80–81
Bombycidæ and Zygænidæ collected in portions of California and Arizona W, V, pp 795–802
(See, also, Invertebrates.)
Bone, implements and weapons made of wood and W, VII, pp 222–233
(See, also, Ethnology and archæology.)
Bones, musical instruments made of, from southern California W, VII, pp 234–238
(See, also, Ethnology and archæology.)

Bonneville, Lake, discussion of.....K, I, pp 490–504
extent of.....W, III, pp 88–93
Bonneville beds of Great Basin.....W, III, pp 94–97
Book Cliffs. (See Roan Cliffs.)
Botanical notes on Colorado.....W, VI, pp 1–14
on New Mexico.....W, VI, pp 15–37
Botany, notes on economic.....W, VI, pp 39–52
(See, also, Plants.)
Boulder, Colorado, coal at.....H, Ann 3, p 109; H, Ann 1–3, p 107
Boulder Creek, Colorado, geology near..H, Ann 3, pp 29–33; H, Ann 1–3, pp 129–133
Box Elder Creek, Colorado, geology near.....H, Ann 3, p 19; H, Ann 1–3, p 119
Box Elder region, Utah, geology of.....K, II, pp 403–406
Bozeman, Montana, astronomical determinations at.....W, II, pp 371–384
meteorological observations at.....H, Miscl 2, pp 47–59
Bradley (F. H.), report of.....H, Ann 6, pp 189–271
Bradshaw district, Arizona, notes on.....W, 1871, p 55
Branchiopodidæ, reproductive habits of, notes on.....H, Ann 12, I, pp 420–452
Brandegee (T. S.), the flora of southwestern Colorado.....H, Bull, vol II, No 3, pp 227–248
Bridger Basin, Wyoming, art, primitive, in.....H, Ann 6, pp 651–653
geology of.....K, II, pp 238–241
Bridger group, invertebrates of, list of.....H, Bull, vol III, No 3, p 611
occurrences and character of.....H, Ann 8, pp 149, 156–158; H, Mon III, pp 11–12; UM, p 45
of Colorado, northwestern.....H, Ann 10, p 37
of Fortieth Parallel region.....K, I, pp 394–405
of Puerco and Wasatch groups, vertebrata of.....H, Mon III, pp 49–742
of Uinta Mountains.....UM, pp 167–168
of Wyoming.....H, Ann 11, p 132
Bridger Basin.....K, II, pp 244–250
Green River region.....H, Ann 11, pp 639–640
vertebrata of.....H, Mon I, pp 15–194
Bridger Pass region, Wyoming, geology of.....K, II, pp 156–160
Brinton (D. G.), the graphic system and ancient records of the Mayas.....Eth, V, pp xvii–xxxvii
British America, locusts in.....H, Uncl 14, pp 108–112, App, pp 145–149
Browns Park, Colorado, structure of.....UM, pp 208–209
Browns Park and Yampa Valley, Colorado, geology of.....K, II, pp 222–225
Browns Park group, exposures of.....UM, p 44
of Uinta Mountains.....UM, pp 168–169
Buffalo. (See Bison.)
Buffalo Fork, Wyoming, geology near.....H, Ann 11, pp 461–467; H, Ann 12, I, pp 225–227
Buffalo Fork Mountains, Wyoming, geology of.....H, Ann 11, pp 468–479
Bull Lake Fork, Wyoming, geology near.....H, Ann 12, I, pp 245–248
Bull Run district, Nevada, notes on.....W, 1871, p 34
Butterflies collected in Colorado in 1873.....H, Ann 7, p 542
collected in Colorado and Utah in 1875, notice of.....H, Bull, vol II, No 3, pp 269–270
in Montana and Wyoming, list of species of.....H, Ann 5, pp 466–467
in southern Utah and northern Arizona in 1877.....H, Bull, vol IV, No 1, pp 253–258
Cabrillo, voyage of, account of.....W, VII, pp 293–314

Cache la Poudre Creek, Colorado, geology near....H, Ann 3, pp 21–23; H, Ann 1–3, pp 121–123
mines on....H, Ann 3, p 108; H, Ann 1–3, p 106
Cache Valley, Utah, geology of....H, Ann 5, pp 19–21
geology of....H, Ann 11, pp 603–606
Cachina, a dance at the pueblo of Zuñi, description of....W, VII, pp 332–336
Calaverite, analysis of, from Colorado....H, Ann 10, p 139
Calciferous group of Colorado, Eagle and Grand rivers....H, Ann 8, pp 111–113
of Wyoming, Sweetwater Valley....H, Ann 11, p 102
Wind River Range....H, Ann 11, pp 71–73
Calendar of the Dakota nation....H, Bull, vol III, No 1, pp 3–25
California, aboriginal inhabitants of southern....W, VII, pp 1–31
agricultural and physical features of southern, especially of the Mohave Desert....W, 1876, pp 214–222
alpine district, notes on....W, 1878, pp 85–86
Amargosa mines, notes on....W, 1871, p 52
asphaltum in San Fernando Range....W, 1876, pp 164–166
astronomical work in Oregon, Washington, and....W, 1879, pp 265–268
Banner district, notes on....W, 1876, pp 57–58
batrachians of. (See Reptiles and batrachians.)
Bear Valley mining district, notes on....W, 1879, p 191
birds collected in Nevada, Utah, Colorado, New Mexico, Arizona, and....W, v, pp 131–507
of portion of....W, 1876, pp 224–278
of Nevada and, preliminary report on....W, 1878, pp 185–186
of Nevada, Oregon, and....W, 1879, pp 282–335
Blind Spring district, notes on....W, 1871, p 46; W, 1876, pp 47–48
Bodie district, notes on....W, 1878, pp 80–81
Bombycidæ and Zygænidæ collected in portions of Arizona and....W, v, pp 795–802
botany and agriculture of portions of southern....W, 1876, pp 202–213
Castle Peak district, notes on....W, 1878, pp 84–85
Cerro Gordo district, notes on....W, 1876, pp 62–63
Charlotte district, notes on....W, 1876, p 51
Clarke district, notes on....W, 1871, p 53; W, 1876, pp 53–54
Coleoptera collected in portions of Nevada, Utah, Arizona, New Mexico, Colorado, and....W, v, pp 809–827
of New Mexico, Colorado, and....W, 1876, pp 296–300
Confidence district, notes on....W, 1878, pp 86–87
Deep Spring Valley district, notes on....W, 1871, pp 49–50
discovery of and origin of name, notes on....W, 1878, pp 226–229
El Paso district, notes on....W, 1871, p 52
elevations in....H, Bull, vol v, No 3, pp 454–456; H, Miscl 1 (3d ed), pp 17–18; H, Miscl 1 (4th ed), pp 56–62
ethnological researches in southern....W, VII, pp 1–314
ethnology of southern, notes on....W, 1876, pp 321–327
fishes collected in Nevada and, report on....W, 1878, pp 187–205
collected in portions of Nevada, Utah, Arizona, New Mexico, Colorado, and....W, v, pp 635–703
Fresno, astronomical work at....W, 1879, pp 41–47
geologic map. (See Map, geologic, California.)
geologic section. (See Section, geologic, California.)
geological and mineralogical character of southeastern....W, 1876, pp 173–188
geology of southern portion of....W, 1876, pp 158–172
of western Nevada and eastern, portions of....W, 1878, pp 167–183
between parallels 39° 30′ and 38° 30′....W, 1877, pp 1285–1295

California, geysers of H, Ann 12, II, pp 321–323
Granite Mountain district, notes on W, 1871, p 51
Green Mountain district, notes on W, 1876, pp 52–53
Hemiptera collected in Colorado, New Mexico, Arizona, and W, 1877, pp 1322–1334
collected in portions of Nevada, Utah, Arizona, New Mexico, Colorado, and W, v, pp 829–841
Hetch Hetchy Valley, description of W, 1879, pp 259–260
Holcomb Valley mining district, notes on W, 1879, p 190
Indian tribes of Eth, III
Indians of Nevada, Arizona and, ethnographic observations on H, Ann 10, pp 461–478
irrigation in Santa Clara Valley H, Ann 5, pp 269–271
Julian district, notes on W, 1876, pp 59–60
Kearsarge district, notes on W, 1871, p 50
kjökkenmöddings and graves of a former population of Santa Barbara islands H, Bull, vol III, No 1, pp 37–56
lakes, alkaline, thermal springs, mineral springs, and brackish waters of southern W, 1876, pp 188–199
Lassen Peak region, topography, geology, etc., of W, 1879, pp 209–214
lithology and mineralogy of portions of Nevada and W, 1878, pp 184–185
Lone Pine district, notes on W, 1871, p 50
Lone Valley mining district, notes on W, 1879, p 192
Lookout district, notes on W, 1876, pp 67–68
Los Angeles, geology of vicinity of W, 1876, pp 158–159
mammals collected in portions of Nevada, Utah, Arizona, New Mexico, Colorado and W, v, pp 35–129; W, 1876, pp 305–312
map, geologic. (See Map, geologic, California.)
map, topographic. (See Map, topographic, California.)
Meadow Lake district, notes on W, 1878, pp 81–82
mining districts of W, 1871, pp 48–52; W, 1876, pp 47–54, 56–60, 62–70; W, 1878, pp 80–88
Mohave Desert, meteorological conditions of W, 1876, pp 152–157
physical and agricultural features of W, 1876, pp 216–219
vegetation of, geographical distribution of W, 1876, pp 222–224
Monitor district, notes on W, 1878, pp 87–88
New Almaden mercury mines, notes on W, 1876, p 64
New Coso district, notes on W, 1876, pp 56–57
New Eldorado district, notes on W, 1876, pp 58–59
Noctuidæ of H, Bull, vol IV, No 1, pp 169–187
Oneata district, notes on W, 1871, p 48
ornithology of portions of W, 1876, pp 224–278
of portions of Nevada and, preliminary report on W, 1878, pp 185–186
Orthoptera collected in Colorado, New Mexico, and W, 1876, pp 278–295
collected in portions of Nevada, Utah, Arizona, New Mexico, Arizona and W, v, pp 843–908
Owens Lake, description of W, 1876, pp 189–190
Panamint district, notes on W, 1876, pp 49–51
Placerville district, notes on W, 1878, pp 82–84
Quaternary lakes of southeastern W, 1876, pp 177–179
reptiles and batrachians collected in Arizona, Nevada, and W, 1878, pp 206–226
collected in portions of Nevada, Utah, Arizona, New Mexico, Colorado, and W, v, pp 509–584
Ridge Bar mining camp, notes on W, 1879, p 188
Rose Spring district, notes on W, 1876, pp 65–66

California, San Antonio mining district, notes on W, 1879, p 190
San Emidio district, notes on W, 1876, pp 51–52
San Fernando, geology of vicinity of W, 1876, pp 160–166
San Gabriel mining district, notes on W, 1879, p 189
Santa Barbara, ethnological researches near W, VII, pp 32–47; W, 1876, pp 312–321
Santa Barbara Islands, crania from, observations on W, VII, pp 277–292
kjökkenmöddings and graves of a former population of H, Bull, vol III, No 1, pp 37–56
Santa Clara Valley, irrigation in H, Ann 5, pp 269–271
Santa Cruz Island, physical features of W, 1876, pp 215–216
Santa Monica Range, geology of W, 1876, pp 159–160
section, geologic. (See Section, geologic, California.)
Silver Era Peak, geology of W, 1878, pp 181–183
Silver Mountain district, notes on W, 1878, pp 88–89
Sumner district, notes on W, 1876, p 65
Tahoe, Lake, general features of W, 1877, pp 1287–1288
Temescal tin mines, notes on W, 1876, pp 68–70
topographic map. (See map, topographic, California.)
Ubehebe district, notes on W, 1876, pp 64–65
Washington district, notes on W, 1878, p 84
West Walker River district, notes on W, 1878, p 86
Zygænidæ and Bombycidæ collected in portions of Arizona and W, v, pp 795–802
(See, also, Basin Ranges.)
Calvin (S.), on some dark shale recently discovered below the Devonian limestones at Independence, Iowa; with a notice of its fossils and description of new species H, Bull, vol IV, No 3, pp 725–730
Cambarus couesi, description of H, Bull, vol III, No 4, pp 803–804
(See, also, Invertebrates.)
Cambrian fossils of Utah and Nevada, list of K, I, p 231
(See, also, Invertebrates, fossils; Vertebrates, fossil.)
Cambrian rocks of Colorado, Eagle and Grand rivers H, Ann 8, pp 111–113
of Wyoming, Green River region H, Ann 11, p 614
Cambrian and Silurian rock of Great Basin K, I, pp 184–221
Camp Apache, Arizona, geology between Gila Valley and W, III, pp 218–225
geology between Little Colorado River and W, III, pp 215–218
Campe Verde, Arizona, geology between St. George, Utah, and W, III, pp 193–208
Campbells Fork, Wyoming, geology near H, Ann 12, I, pp 240–245
Camps, location of, distances between, etc W, Uncl 1; W, Uncl 2
Canadian group, invertebrate fossils of, from Utah and Nevada W, IV, pp 50–61; W, Uncl 6, pp 8–12
of Colorado, Eagle and Grand rivers H, Ann 8, pp 111–113
Canadian River region, New Mexico, agricultural resources of W, III, Supp, pp 374–379
geology of W, III, Supp, pp 225–282
Canadian Valley, New Mexico, geology of, notes on H, Bull, vol II, No 4, pp 279–285
Canidæ of the Loup Fork epoch H, Bull, vol VI, No 2, pp 387–390
(See, also, Vertebrates.)
Canidæ and Nimravidæ of the Miocene period, descriptions of H, Bull, vol VI, No 1, pp 165–181
(See, also, Vertebrates.)

Canyon, Colorado, geology near H, Bull, vol I, ser 2, No 5, pp 249–251
meteorological observations at H, Miscl 6, pp 40–56
Caribidæ, description of two species of, from Toronto, Canada.....H, Bull, vol III, No 4, pp 763–764
(See, also, Invertebrates.)
Carbon Basin, Wyoming, geology of.....K, II, pp 143–148
Carboniferous fossils, invertebrates of Arizona and adjacent States.....H, Bull, vol V, No 2, pp 209–220; W, IV, pp 79–161; W, Uncl 6, pp 15–23
invertebrates of Colorado, Arizona, Utah, Idaho, and Wyoming, remarks on certain.....H, Bull, vol V, No 2, pp 209–220
of Fortieth Parallel region.....K, IV, pp 50–99, 251–280
of Idaho, Wyoming, Utah, Colorado, Arizona, and adjacent States..H, Bull, vol V, No 2, pp 209–220
of Interior States.....H, Ann 12, I, pp 155–171
of Nevada and adjacent States.....W, IV, pp 79–161; W, Uncl 6, pp 15–23
of New Mexico W, III, Supp, pp iii–xxxvi
of New Mexico and adjacent States..W, IV, pp 79–161; W, Uncl 6, pp 15–23
of Plateau province.....UM, pp 88–92, 107–109
of Southwest..... W, IV, pp 79–161
of Utah and adjacent States H, Bull, vol V, No 2, pp 209–220; W, IV, pp 79–161
of Utah and Wyoming, list of, collected in 1871.....H, Ann 5, pp 373–374
of Western States and Territories.....H, Ann 12, I, pp 119–141
of Wyoming, Idaho, Utah, and Arizona....H, Bull, vol V, No 2, pp 209–220
of Wyoming and Utah, list of H, Ann 5, pp 373–374
(See, also, Invertebrates, fossil.)
of Idaho, eastern, and Wyoming, western, list of H, Ann 11, pp 619–620
of Idaho, Montana, and Utah.....H, Ann 6, pp 432–434, 465–471
of Utah and Wyoming, list of.....H, Ann 5, pp 373–374
of Wyoming, western, and Idaho, eastern, list of.....H, Ann 11, pp 619–620
vertebrates, Batrachia and Reptilia of Permian beds of Texas, some new H, Bull, vol VI, No 1, pp 79–82
fishes of Kansas, notice of some.....H, Mon I, pp 311–314
(See Invertebrates, fossil; Vertebrates, fossil; Plants, fossil.)
Carboniferous rocks of Basin Ranges.....W, III, pp 176–180
of Black Hills.....BH, pp 107–130
of Colorado, central..... W, III, pp 361–377
Eagle and Grand rivers.....H, Ann 8, pp 114–120
Front Range.....H, Ann 8, p 42
Grand River district.....H, Ann 9, pp 70–79; H, Ann 10, p 178
northwestern.....H, Ann 10, pp 24–26
San Juan region.....H, Ann 8, pp 214–221
Sangre de Cristo Range.....H, Ann 9, pp 114–123
south-central, and New Mexico, north-central.....W, III, Supp, pp 73–84
Spanish Peaks region.....W, 1879, p 275
of Colorado Plateau W, III, pp 285–287
of Idaho, Bear River region.....H, Ann 11, pp 616–621
eastern, and Wyoming, western.....H, Ann 11, pp 485–490
of New Mexico, north-central, and Colorado, south-central W, III, Supp, pp 73–84
of Utah, Grand River district.....H, Ann 9, pp 70–79; H, Ann 10, p 178
Uinta Mountains.....UM, pp 146–153
of Wyoming, Green River region.....H, Ann 11, pp 616–621

Carboniferous rocks of Wyoming, Rawlings Peak, vicinity of H, Ann 11, pp 120–121
of Wyoming, Sweetwater Valley H, Ann 11, pp 103–105
western, and Idaho, eastern H, Ann 11, pp 485–490
Wind River Range, vicinity of H, Ann 11, pp 73–79
(See, also, Names of formations.)
Caribou Range, Idaho, geology of H, Ann 11, pp 360–405
Carpenter (W. L.), destruction of pine timber in Rocky Mountains H, Ann 7, pp 538–539
report on alpine insect fauna of Colorado H, Ann 7, pp 539–542
report on alpine insect fauna of Colorado and New Mexico ... W, 1876, pp 301–305
report on collections made in 1873 H, Ann 7, pp 537–542
work in charge of, report on W, 1876, pp 126–130
Carr (L.), observations on the crania from Santa Barbara Islands, California .. W, VII, pp 277–292
Carriso Mountains, Colorado, geology of H, Ann 9, pp 274–276
Carson City, Nevada, birds observed near W, 1877, pp 1307–1322
Carson Desert, Nevada, geology of K, II, pp 744–751
Carson Valley, Nevada, geology of W, 1877, pp 1285–1286; W, 1878, pp 168–173
Castle Creek district, South Dakota, mineral resources of BH, pp 261–266
Castle Dome district, Nevada, notes on W, 1876, pp 60–61
Castle Peak district, California, notes on W, 1878, pp 84–85
Caswell (J. H.), microscopic petrography of Black Hills BH, pp 469–527
Cathartidæ, osteology of H, Ann 12, I, pp 727–806
(See, also, Vertebrates.)
Cave fauna in Utah H, Bull, vol III, No 1, pp 157–169
(See, also, Invertebrates.)
Ȼegiha language, myths, stories, etc., in Eth, VI
(See, also, Ethnology and archæology.)
Cenomanian formation, plants of, table showing distribution of H; Mon VIII, pp 93–103
Cenozoic and Mesozoic Unionidæ of North America, comparison with living species H, Bull, vol III, No 3, pp 615–624
Central City, Colorado, mines of H, Ann 3, pp 114–116; H, Ann 1-3, pp 114–116
Central City district, Colorado, mines of H, Ann 7, pp 280–293
Cerro Gordo district, California, notes on W, 1876, pp 62–63
Cete, bibliography of Sirenia and H, Bull, vol VI, No 3, pp 399–562
Chaco Canyon, New Mexico, ruins in H, Ann 10, pp 431–449; W, VII, pp 366–369
skull from, report on H, Ann 10, pp 453–457
Chalcedony, thin section of, from Nevada, Pahtson Mountains K, VI, pl 12
Chalk, analysis of, from Kansas H, Ann 9, p 282; H, Bull, vol II, No 3, p 215
Chama River, New Mexico, pueblo and burial place in valley of .. W, VII, pp 362–365
Chambers (V. T.), descriptions of new Tineina from Texas, and others from more northern localities H, Bull, vol IV, No 1, pp 79–106
index to the described Tineina of the United States and Canada H, Bull, vol IV, No 1, pp 125–167
new Entomostraca from Colorado H, Bull, vol III, No 1, pp 151–155
notes on a collection of Tineid moths made in Colorado in 1875, by A. S. Packard, jr H, Bull, vol III, No 1, pp 143–145
Tineina and their food plants H, Bull, vol IV, No 1, pp 107–123
Tineina in Colorado, distribution of H, Bull, vol III, No 1, pp 147–150
Tineina of Colorado H, Bull, vol III, No 1, pp 121–142
Charlotte district, California, notes on W, 1876, p 51
Chelly Canyon, Arizona, ruins in H, Ann 10, pp 420–425; W, VII, pp 372–373
Chemistry of the Washoe process K, III, pp 273–293

Chert, analysis of, from Colorado, Vermilion Creek.....K, I, p 143
analysis of, from Nevada, Cottonwood Canyon, vicinity of.....K, II, p 720
Cheyenne, Wyoming, astronomical observations at W, Uncl 3, pp 2–45
geology between Denver and.....H, Ann 3, pp 11–37; H, Ann 1–3, pp 111–137
between Fort Fetterman and H, Ann 4, pp 11–24
between Omaha, Nebraska, and.....H, Ann 4, pp 98–112
Cheyenne Lake (Tertiary), extent of.....K, I, pp 455–456
Chickering (J. W.), catalogue of phænogamous and vascular cryptogamous plants collected during the summers of 1873 and 1874 in Dakota and Montana along the forty-ninth parallel by Dr. Elliott Coues, with which are incorporated those collected in the same region by Mr. George M. Dawson ...H, Bull, vol IV, No 4, pp 801–830
Chittenden (G. B.), meteorological observations in Colorado and Montana, 1873 H, Miscl 6
topographical report on the San Juan district H, Ann 9, pp 351–368
topographical report on White River district.....H, Ann 10, pp 349–357
Chloride mining district, New Mexico, notes on W, 1879, p 193
Chrysolite, analysis of, from New Mexico, Fort Defiance W, 1875, p 105
Chugwater River, Wyoming, geology near.....LOR, 1868, pp 233–234; H, Ann 2, pp 79–80; H, Ann 4, pp 12–18
Church (J. A.), preliminary report on examination at the Comstock lode W, 1877, pp 1284–1285
report on examination of the Comstock lode W, 1878, pp 145–166
Chut-sin-ni language, vocabulary of Eth, I, pp 135–142
Ciconiidæ, synopsis of American genera of Ardeidæ and.....H, Bull, vol IV, No 1, pp 219–251
Cimarron, New Mexico, astronomical determinations at W, II, pp 403–415
Cimarron Creek region, New Mexico, geology of W, III, Supp, pp 231–248
Cinnabar Mountain, Wyoming, geology near.....H, Ann 5, pp 60–63
Clark (J. H.), report of.....W, 1872, pp 44–45; W, 1879, pp 265–268
Clark (J. H.) and Kampf (F.), report on astronomical observations at Cheyenne, Wyoming W, Uncl 3, pp 2–45
Clark (J. H.), Maryatt (W. W.), Safford (T. H.), and Kampf (F.), astronomical determinations in Nevada, Utah, Montana, Wyoming, Nebraska, Colorado, and New Mexico, 1872–74.....W, II, pp 1–491
Clark Fork, Montana, geology near H, Ann 6, pp 46–48
Clarke. See Lewis and Clarke.
Clarke district, California, notes on.....W, 1871, p 53; W, 1876, pp 53–54
Clay, analyses of, from Nevada, Comstock lode K, III, p 89
Clay, blue, analysis of, from Yellowstone Park, Geyser Basin H, Ann 6, p 151
Cliff dwellings. See Ruins.
Climate, physiological effects of a very hot.....W, 1876, pp 328–330
of Arizona, Gila Valley W, III, pp 598–601
of Black Hills.....BH, pp 301–311
of Colorado.....H, Ann 10, pp 315–317
Denver district H, Ann 3, pp 139–142; H, Ann 1–3, pp 135–138
eastern, and Kansas, western.....H, Ann 4, pp 453–456
south-central, and New Mexico, north-central.....W, III, Supp, pp 357–360
of Kansas, western, and Colorado, eastern H, Ann 4, pp 453–456
of Montana, notes on.....H, Ann 6, pp 809–812
of New Mexico, north-central, and Colorado, south-central.W, III, Supp, pp 357–360
northern, notes on.....W, 1875, pp 111–116
of Tertiary time as represented in its flora H, Ann 7, pp 419–425
of Utah, Salt Lake City H, Ann 5, p 236

Climate of western States....H, Uncl 14, pp 185–210
of Yellowstone Park....H, Ann 12, II, pp 486–488
Coal, analysis of, from British Columbia, Nanaimo....H, Ann 3, p 99; H, Ann 1–3, p 199; H, Ann 7, p 113
analysis of, from British Columbia, Souris Valley....H, Ann 7, pp 112, 114
from California, Mount Diablo....H, Ann 3, p 99; H, Ann 1–3, p 199; H, Ann 4, p 321; H, Ann 6, p 371; H, Ann 7, pp 113, 114
from Colorado, Animas region....H, Ann 9, p 202; H, Ann 10, p 141
Anthracite Creek..H, Ann 8, p 176; H, Ann 9, p 203; H, Ann 10, p 137
Boulder....H, Ann 4, pp 182–183; H, Ann 9, p 203; H, Ann 10, p 141; W, III, p 633
Boulder County....H, Ann 4, p 321; H, Ann 6, p 371
Boulder Creek....H, Uncl 1, p 62
Canyon....H, Ann 6, p 370; H, Ann 7, pp 112, 114; H, Ann 9, p 203; H, Ann 10, p 141; W, III, p 633
Cebolla Creek....H, Ann 9, p 203
Coal Creek (Elk Mountains)....H, Ann 8, p 175; H, Ann 9, p 203
Coal Creek, Golden....H, Ann 3, pp 94, 98; H, Ann 1–3, pp 194, 198; H, Ann 7, p 112; H, Ann 9, p 203; H Uncl 1, p 62
Colorado Springs....H, Ann 6, p 370; H, Ann 7, p 112; H, Ann 9, p 203; H, Ann 10, p 141; W, III, p 633
Cuchara River....H, Ann 9, p 202
Denver, vicinity of....H, Ann 3, p 98; H, Ann 1–3, p 198
Elk Mountains....H, Ann 9, p 203; H, Ann 10, p 137
Golden....H, Ann 4, p 321; H, Ann 6, p 371; H, Ann 7, p 112; H, Ann 9, p 203; H, Ann 10, p 141; W, III, p 633
Gunnison River....H, Ann 9, p 203
Hamilton, vicinity of....W, III, p 391
Oh-be-joyful Creek....H, Ann 8, p 176; H, Ann 9, p 203
Ralston Creek....H, Ann 4, p 321; H, Ann 6, p 371; H, Ann 7, p 112; H, Ann 9, p 203
Red Creek....W, III, p 634
Rock Creek....H, Ann 8, p 177; H, Ann 9, p 203
South Boulder Creek, Marshall mine..H, Ann 7, p 112; H, Ann 9, p 203
Trinidad region....H, Ann 7, p 112; H, Ann 9, pp 200, 201, 202; H, Ann 10, p 141; W, III, p 634
Uncompahgre River....H, Ann 9, pp 99, 203
Walsenburg, vicinity of....H, Ann 9, pp 201, 202
from Iowa, Des Moines and Ottumwa....H, Ann 4, p 184
from Montana, Bozeman, vicinity of....H, Ann 7, p 113
Fort Ellis, vicinity of....H, Ann 6, p 114
from New Mexico, Los Cerillos and Placer Mountains....W, III, p 635
Naciniento....W, III, p 632
Placer Mountains....W, III, p 632
Raton Mountains....H, Ann 6, p 370; H, Ann 7, p 112
San Lazaro Mountains....H, Ann 4, pp 181–182
Silver City....W, III, p 633
Vermejo Canyon...H, Ann 3, p 98; H, Ann 1–3, p 198; H, Ann 7, p 112
from Oregon, Coos Bay....H, Ann 3, p 99; H, Ann 1–3, p 199; H, Ann 7, pp 113, 114
from Utah, Coalville....H, Ann 4, p 321; H, Ann 4, pp 115, 371; H, Ann 7, p 113; K, III, pp 467–472, 473
Johnsons....H, Ann 7, p 113
Robinsons....H, Ann 7, p 113

Coal, analysis of, from Utah, Sprague H, Ann 7, p 113
analysis of, from Utah, Wasatch H, Ann 7, p 113; K, III, p 473
from Utah, Weber River H, Ann 7, pp 113, 114
from Washington, Bellingham Bay H, Ann 3, p 99; H, Ann 1-3, p 199; H, Ann 7, p 113
from Wyoming, Black Buttes H, Ann 3, p 98; H, Ann 1-3, p 198; H, Ann 7, p 112; K, III, p 473
Carbon H, Ann 3, p 97; H, Ann 1-3, p 197; H, Ann 4, p 321; H, Ann 6, pp 370, 371; H, Ann 7, pp 112, 114
Cooper Creek K, II, p 80
Cooper station H, Ann 4, p 185; H, Ann 7, p 112
Evanston H, Ann 4, pp 183-184, 321; H, Ann 6, pp 115, 371; H, Ann 7, p 113; K, III, p 473
Hallville H, Ann 4, p 321; H, Ann 6, p 371; H, Ann 7, p 112
Point of Rocks H, Ann 3, p 98; H, Ann 1-3, p 198; H, Ann 4, p 186; H, Ann 7, p 112; H, Ann 11, p 126; K, III, p 473
Rock Creek H, Ann 3, p 98; H, Ann 1-3, p 198
Rock Springs H, Ann 4, p 321; H, Ann 6, pp 370, 371; H, Ann 7, pp 112, 113; H, Ann 11, p 126; K, III, p 473
Separation H, Ann 7, p 112; H, Ann 11, p 127; K, III, p 473
Van Dyke H, Ann 4, p 321; H, Ann 6, p 371; H, Ann 7, p 112
in Colorado H, Ann 4, pp 322-326; K, III, pp 481-485
Boulder Creek and Pole Creek ..H, Ann 3, pp 93-95; H, Ann 1-3, pp 193-195
Front Range, east of, character, distribution, etc., of H, Ann 7, pp 110-128
Trinidad region H, Ann 9, pp 195-207; W, III, Supp, pp 102-126, 389-393
in Colorado and New Mexico W, III, pp 631-636
in Montana, Fort Ellis, vicinity of H, Ann 6, pp 113-114
in Nebraska LOR, 1867, pp 134, 137, 142-143, 154-155; H, Ann 1, pp 13, 17, 22-23, 36
in New Mexico, Galisteo field W, III, Supp, pp 126-130
Trinidad field W, III, Supp, pp 102-126, 389-393
in New Mexico and Colorado W, III, pp 631-636
in Utah H, Ann 4, pp 328-329
in Wyoming H, Ann 4, pp 326-328
(See, also, Lignitic formation.)
Coals of the Rocky Mountains H, Ann 4, pp 179-186
Coals, Tertiary, of the West H, Ann 4, pp 318-329
Coal fields of Colorado H, Uncl 1, pp 44-65
Coal Measures. (See Upper Coal Measures.)
Coalville, Utah, strata at H, Ann 6, pp 437-450
Coalville district, Utah, coal at K, III, pp 467-472
Coatis, character, distribution, etc., of H, Bull, vol v, No 2, pp 153-174
(See, also, Vertebrates.)
Coleoptera collected in 1871, list of H, Ann 5, pp 382-392
of Arizona and adjacent States W, v, pp 809-827
of California, New Mexico, and Colorado, new species of W, 1876, pp 296-300
of California and adjacent States W, v, pp 809-827
of Colorado, eastern, and New Mexico, northeastern, list of ..H, Ann 4, pp 469-470
lists of species collected H, Ann 7, pp 566-571; H, Ann 9, pp 811-815
of Colorado and adjacent States W, v, pp 809-827
of Colorado, New Mexico, and California, new species of W, 1876, pp 296-300
of Idaho and Wyoming H, Ann 6, p 717
of Nevada, Utah, California, Colorado, New Mexico, and Arizona W, v, pp 809-827

Coleoptera of New Mexico, northeastern, and Colorado, eastern..H, Ann 4, pp 469–470
of New Mexico and adjacent States.....W, v, pp 809–827
of New Mexico, Colorado, and California, new species of..W, 1876, pp 296–300
of Rocky Mountains, alpine regions.....H, Bull, vol IV, No 2, pp 447–480; H, Bull, vol v, No 3, pp 499–520
Tertiary rocks.....H, Bull, vol II, No 1, pp 77–87
of Utah and adjacent States.....W, v, pp 809–827
of Wyoming and Idaho.....H, Ann 6, p 717
Colorado, agricultural resources of north-central New Mexico and south-central.....W, III, Supp, pp 360–388; W, 1875, pp 129–139
agriculture of.....H, Ann 3, pp 131–155; H, Ann 1–3, pp 229–251
of Wyoming and.....H, Ann 4, pp 191–264
Animas region, physical features of.....W, 1876, pp 100–102
Apishpa Creek, geology near.....H, Ann 3, p 53; H, Ann 1–3, p 153
arable and pasture lands of, report on.....H, Ann 10, pp 311–357
Araneæ collected in, report on.....H, Bull, vol III, No 2, pp 477–529
Arkansas River, agriculture in vicinity of.....H, Ann 4, pp 213–217
cultivable areas in basin of.....H, Ann 10, pp 326–328
geology near.....H, Ann 3, pp 48–49; H, Ann 1–3, pp 148–149
Arkansas Valley, geology of.....H, Ann 7, pp 239–242; W, 1875, pp 97–98
glaciation in upper.....H, Ann 8, pp 47–53
art, ancient, in northwestern.....H, Bull, vol II, No 1, pp 65–66
Aspen Mountain district, structure of.....UM, pp 209–210
astronomical determinations in New Mexico, Nevada, Utah, Montana, Wyoming, Nebraska, and.....W, II, pp 1–491
batrachians of. (See Reptiles and batrachians.)
beetles collected in, list of.....H, Ann 9, pp 811–815
Big Thompson Creek, geology near.....H, Ann 3, pp 24–26; H, Ann 1–3, pp 124–126; H, Ann 7, pp 20–27
bird, fossil, from insect-bearing shales of Colorado, description of.....H, Bull, vol IV, No 2, pp 443–445
birds collected in California, Nevada, Utah, Arizona, New Mexico, and..W, v, pp 131–507
collected in vicinity of Denver.....W, Uncl 4, pp 55–69
in vicinity of Fort Garland.....W, Uncl 4, pp 69–95
Blue River Valley, topographic features of.....H, Ann 9, pp 399–407
botanical notes on.....W, VI, pp 1–14
botany of central, preliminary report on.....W, Uncl 5, pp 23–62
Boulder, coal at.....H, Ann 3, p 109; H, Ann 1–3, p 107
Boulder Creek, geology near.....H, Ann 3, pp 29–33; H, Ann, 1–3, pp 129–133
Box Elder Creek, geology near.....H, Ann 3, p 19; H, Ann 1–3, p 119
Browns Park, structure of.....UM, pp 208–209
Browns Park and Yampa Valley, geology of.....K, II, pp 222–225
butterflies collected in.....H, Ann 7, pp 542
collected in Utah and, notice of.....H, Bull, vol II, No 3, pp 269–270
Cache la Poudre Creek, geology near.....H, Ann 3, pp 21–23; H, Ann 1–3, pp 121–123
mines on.....H, Ann 3, p 108; H, Ann 1–3, p 106
Canyon, geology near.....H, Bull, vol I, ser 2, No 5, pp 249–251
meteorological observations at.....H, Miscl 6, pp 40–56
Carriso Mountains, geology of.....H, Ann 9, pp 274–276
central, climate and agricultural resources of.....W, III, pp 327–342
streams of.....W, III, pp 320–327
topography of.....W, III, pp 307–327
Central City, mines of.....H, Ann 3, I, pp 114–116; H, Ann 1–3, pp 112–114

Colorado, Central City district, mines of H, Ann 7, pp 280–293
climate of H, Ann 10, pp 315–317
of Denver district H, Ann 3, pp 139–142; H, Ann 1–3, pp 135–138
of Kansas, western, and eastern H, Ann 4, pp 453–456
coal in H, Ann 4, pp 322–326; W, III, pp 631–636
Boulder Creek and Pole Creek H, Ann 3, pp 93–95; H, Ann 1–3, pp 193–195
east of Front Range, character, distribution, etc., of ... H, Ann 7, pp 110–128
Trinidad field W, III, Supp, pp 102–126, 389–393
coal and iron in K, III, pp 481–485
coal fields of H, Uncl 1, pp 44–65
Coleoptera collected in H, Ann 7, pp 566–571
collected in California, Nevada, Utah, Arizona, New Mexico and W, v, pp 809–827
in New Mexico, California and W, 1876, pp 296–300
Colorado City, geology between Denver and H, Ann 3, pp 37–46; H, Ann 1–3, pp 137–146
geology between Fort Union and H, Ann 3, pp 47–58
springs near H, Ann 3, pp 118–120; H, Ann 1–3, pp 116–118
Colorado Springs, astronomical observations at W, Uncl 3, pp 47–82
geology near H, Ann 6, pp 100–104
Colorado Range, geology of K, II, pp 2–72
geology of east slope of, from Cache la Poudre River to Pikes Peak .. H, Ann 7, pp 17–36
Denver, birds of vicinity of W, Uncl 4, pp 55–69
climate of vicinity of H, Ann 3, pp 139–142; H, Ann 1–3, pp 135–138
communication between San Juan mines and, means of H, Bull, vol I, ser 2, No 3, pp 145–149
geology between Cheyenne, Wyoming, and H, Ann 3, pp 11–37; H, Ann 1–3, pp 111–137
between Colorado City and H, Ann 3, pp 37–46; H, Ann 1–3, pp 137–146
Diamond Peak, structure of UM, pp 204–206
Dinosaurian from Dakota beds of H, Bull, vol III, No 4, pp 805–806
Diptera collected in Arizona and W, v, pp 803–807
Dolores River, geology near H, Ann 9, pp 53–58, 263–267
Dry Mountains, structure of UM, pp 206–208
Eagle River, geology along H, Ann 7, pp 70–78
Eagle River Mountains, topographic features of H, Ann 7, pp 383–384
Eagle River Valley, geology of H, Ann 8, pp 79–84, 106–107, 111, 113, 114–116, 118–120, 122, 124–125, 129–130, 135, 171–172
elevations in H, Ann 7, pp 667–669, 678–681; H, Ann 8, pp 429–433, 441–442; H, Bull, vol v, No 3, pp 456–457; H, Miscl 1 (3d ed), pp 13–14; H, Miscl 1 (4th ed) pp 62–66
Elk Mountains, eruptive masses in H, Bull, vol III, No. 3, pp 555–557
geology of H, Ann 7, pp 58–69, 250–261; H, Ann 8, pp 54–71
mines in H, Ann 7, pp 304–305
Elkhead Mountains, geology of K, II, pp 167–180
Empire, mines at H, Ann 3, p 114; H, Ann 1–3, p 112
Entomostraca from H, Bull, vol III, No 1, pp 151–155
erosion in eastern, peculiar forms of H, Bull, vol I, ser 2, No 3, pp 210–211
some striking products of H, Bull, vol IV, No 4, pp 831–864
eruptive mountains in, on a peculiar type of H, Bull, vol III, No 3, pp 551–564
Escalante Hills, geology of K, II, pp 287–288

Colorado, explorations in H, Ann 3; Ann 1–3, pp 103–261; H, Ann 7; H, Ann 8; H, Ann 9; H, Ann 10
Fairplay, meteorological observations at H, Miscl 6, pp 35–39
formations of, synopsis of H, Ann 10, pp 123–131
fishes of portion of California, Nevada, Utah, Arizona, New Mexico, and .. W, v, pp 635–703
of Tertiary shales of South Park H, Bull, vol I, ser 2, No 1, pp 3–5
flora of southwestern H, Bull, vol II, No 3, pp 227–248
synopsis of H, Miscl 4
Florissant, Tertiary lake basin at H, Ann 12, I, pp 271–293
Frazier Basin, geology of H, Ann 7, pp 161–162.
Front Range, Archean rocks of K, I, pp 17–28
Denver to Colorado Springs, geology of H, Ann 7, pp 194–212
Jurassic rocks of K, I, pp 285–289
surface features of, notes on H, Bull, vol I, sec 2, No 4, pp 216–220
topographic features of H, Ann 9, pp 414–417
Triassic rocks of K, I, pp 249–258
Georgetown, astronomical determinations at W, II, pp 211–238
mines at H, Ann 3, pp 111–114
Georgetown district, mines of H, Ann 7, pp 293–300
silver mining in K, III, pp 589–605
geologic map of. (See Map, geologic, Colorado.)
geologic section in. (See Section, geologic, in Colorado.)
geological and mineralogical report on portions of New Mexico and W, 1875, pp 97–116
geology of north-central New Mexico and south-central .. W, III, Supp, pp 3–420
Gilpin County, gold mining in K, III, pp 493–588
mines of H, Ann 7, pp 280–293
glaciers, ancient, in southern H, Ann, 9, pp 216–226
Gold Hill mining region, geology of H, Ann 7, pp 685–687
gold mining in Gilpin County K, III, pp 493–588
gold and silver mines of H, Ann 3, pp 87–89; H, Ann 1–3, pp 187–189
Golden, geology near H, Ann 3, pp 33–35; H, Ann 1–3, pp 133–135
Grand River Basin, cultivable areas in H, Ann 10, pp 332–337
Grand River district, geology of H, Ann 9, pp 31–101; H, Ann 10, pp 163–185
topographical report on H, Ann 9, pp 337–350
Grand River Valley, geology of H, Ann 7, pp 158–170; H, Ann 8, pp 85–93, 107, 111, 113, 116, 120, 123, 125–126, 130, 135, 172–174
grazing areas in H, Ann 10, pp 344–347
Gunnison River, geology of vicinity of H, Ann 8, pp 94–105, 107–109, 123, 126–128, 131–137; H, Ann 9, pp 43–46
Hardscrabble district, note on W, 1876, pp 48–49
Hemiptera collected in New Mexico, Arizona, California, and W, 1877, pp 1322–1334
Hemiptera collected in portions of California, Nevada, Utah, Arizona, New Mexico, and W, v, pp 829–841
Hughes, astronomical determinations at W, II, pp 239–263
human remains found among ancient ruins in northern New Mexico and southwestern H, Bull, vol II, No 1, pp 47–63
Hymenoptera collected in portions of New Mexico, Arizona, Nevada, Utah, and W, v, pp 705–736
igneous rocks of, distribution, character, origin, etc., of .. H, Ann 10, pp 199–272
industrial resources of western Kansas and eastern H, Ann 4, pp 442–458

Colorado, insect fauna, alpine, of....H, Ann 7, pp 539–542
insect fauna of New Mexico and....W, 1876, pp 301–305
insects from Tertiary rocks of Wyoming and, account of same....H, Bull, vol IV, No 2, pp 519–542
invertebrate fossils of portions of New Mexico, Arizona, Nevada, Utah, and....W, IV, pp 1–219
irrigation in....H, Ann 3, pp 149–150; H, Ann 1–3, pp 145–146; H, Ann 10, pp 339–343
Julesburg, astronomical determinations at....W, II, pp 433–448
Kenosha Range, topographic features of....H, Ann 9, pp 410–411
La Plata River, ruins on....H, Bull, vol II, No 1, pp 6–7
La Plata Valley, geology of....H, Ann 9, pp 245–248, 268–272
La Veta Pass, mountain ranges between the head of the Pecos and, geology of....W, 1876, pp 199–202
Labran, astronomical determinations at....W, II, pp 265–268
Lake Fork, physical features near....W, 1876, pp 93–95
Las Animas mining district, notes on....W, 1879, p 196
leeches collected in, list of....H, Ann 7, p 623
leeches, fresh-water, collected in portions of Nevada, Utah, Arizona, New Mexico, and....W, V, pp 955–967
Lignitic formation, distribution and thickness of..H, Ann 6, pp 318–327, 364–367
of Wyoming and eastern....H, Bull, vol I, ser 2, No 5, pp 401–411
lithology of portions of northern New Mexico and southern....W, 1877, pp 1295–1298
Little Book Cliffs, geology of....H, Ann 10, pp 176–177
Little Snake River, geology near....K, II, pp 219–222
Little Yampa River, geology of valley of....K, II, pp 187–189
locust in....H, Ann 9, pp 592–601, 622–623; H, Uncl 14, pp 99–102, 157–158, App, pp 111–116
mammals collected in portions of California, Nevada, Utah, Arizona, New Mexico, and....W, V, pp 35–129
Mancos River, cliff houses and ruins on....H, Ann 10, pp 391–399; H, Bull, vol I, ser 2, No 1, pp 17–30; H, Bull, vol II, No 1, pp 10–18
map, geologic of. (See Map, geologic, Colorado.)
map, topographic, of. (See Map, topographic, Colorado.)
Medicine Bow Range, Archean rocks of....K, I, pp 28–36
geology of....K, II, pp 94–111
Mesa Verde, geology of....H, Ann 9, pp 253–257
meteorological observations in Montana and, in 1873....H, Miscl 6
Middle Park, eruptive mountains near....H, Bull, vol III, No 3, pp 552–553
geology of....H, Ann 3, pp 81–86; H, Ann 7, pp 83–192
topographic features of....H, Ann 9, pp 391–398
minerals of, bibliography of....H, Ann 10, pp 158–159
catalogue of....H, Ann 7, pp 352–361; H, Ann 9, pp 226–235; H, Ann 10, pp 135–139
collected in South Park district....H, Ann 7, pp 267–270
mines and minerals of....H Ann 3, pp 103–130; H, Ann 1–3, pp 201–228
mining districts of, report on....H, Ann 7, pp 275–361
Mollusca of, report on....H, Ann 8, pp 389–410
Mollusca, terrestrial and fluviatile, collected in portions of Utah, New Mexico, Arizona, and....W, V, pp 923–954
mollusks, terrestrial, collected in, list of....H, Ann 7, p 523
moths of, geographical distribution of....H, Ann 7, pp 543–559
moths, noctuid, collected in, in 1875, notes on....H, Bull, vol III, No 1, pp 115–120

Colorado, moths, tineid, collected in, in 1875, notes on H, Bull, vol III, No 1, pp 143–145
Mount Lincoln, meteorological observations at H, Miscl 6, pp 22–34
Muddy Valley, geology of H, Ann 7, pp 178–184
Myriopoda of H, Ann 7, p 607
Neuroptera and pseudo-Neuroptera collected in, report on .. H, Ann 7, pp 571–606
collected in portions of Arizona, New Mexico, and W, v, pp 909–922
Nevada City, mines at and near .. H, Ann 3, pp 116–118; H, Ann 1–3, pp 114–116
North Park, geology of LOR, 1868, pp 237–242; H, Ann 2, pp 85–88; H, Ann 4, pp 124–128; K, II, pp 112–129
northwestern, report on portion of H, Ann 10, pp 3–60
Orthoptera collected in California, New Mexico, and W, 1876, pp 278–295
collected in California, Nevada, Utah, Arizona, New Mexico, and portions of W, v, pp 843–908
collected in, list of H, Bull, vol II, No 3, pp 261–267
Pagosa Springs, geology of H, Ann 9, pp 183–185
Park province, structure of UM, pp 26–29
Park Range, Archean rocks of K, I, pp 36–42
geology of H, Ann 7, pp 39–48, 225–229; K, II, pp 130–141
topographic features of H, Ann 9, pp 378–381
trachyte of K, I, pp 582–585
passes in the high mountains H, Ann 7, p 675
physical features of K, III, pp 476–480
Physopoda, Tertiary of H, Bull, vol I, ser 2, No 4, pp 221–223
plants collected in Nevada, Utah, Arizona, New Mexico and, catalogue of, with descriptions of new species W, VI, pp 53–297
collected in Wyoming, New Mexico and, catalogue of .. H, Ann 4, pp 472–487
precious metals in K, III, pp 485–492
Purgatory River region, agricultural resources of W, III, Supp, pp 379–381
geology of W, III, Supp, pp 195–224
Red Creek, Archean rocks of K, II, pp 269–271
reptiles and batrachians collected in portions of California, Nevada, Utah, Arizona, New Mexico, and W, v, pp 509–584
Rio Grande drainage basin, geology of H, Ann 9, pp 153–167
Rio Grande region, geology of W, III, Supp, pp 313–321
roads and trails in H, Ann 9, pp 347–350
Rocky Mountains, notes on H, Bull, vol I, ser 1, No 2, pp 72–77
Rocky Mountains, topographic features of crest of, south of Tennessee Pass H, Ann 9, pp 373–377
ruins, ancient, in southwestern .. H, Ann 8, pp 367–381; H, Ann 10, pp 383–452; H, Bull, vol I, ser 2, No 1, pp 17–30; H, Bull, vol II, No 1, pp 3–24
Saguache Range. (See Sawatch Range.)
St. Vrain Creek, geology near H, Ann 3, pp 27–28; H, Ann 1–3, pp 127–128
San Juan Mountains, geology of W, 1875, pp 100–101
San Juan region, communication between Denver and, means of H, Ann 8, pp 443–449
geology of H, Ann 8, pp 187–240; H, Ann 9, pp 241–276; H, Bull, vol I, ser 2, No 3, pp 151–164
mines of H, Ann 8, pp 229–238; H, Bull, vol I, ser 2, No 3, pp 151–164
topography of H, Ann 8, pp 451–496; H, Ann 9, pp 353–368; H, Bull, vol I, ser 2, No 3, pp 195–210
San Juan River, ruins and cave dwellings on H, Bull, vol II, No 1, pp 7–10
San Juan Valley, geology of H, Ann 9, pp 248–251
San Luis district, geology of H, Ann 7, pp 305–351

Colorado, San Luis Valley, agriculture in H, Ann 4, pp 197–202
San Luis Valley, cultivable areas in H, Ann 10, pp 328–330
geology and topography of H, Ann 9, pp 140–149
physical features of W, 1876, pp 86–88
San Miguel Mountains, geology of H, Ann 10, pp 193–195
San Miguel region, physical features of W, 1876, pp 98–100
Sangre de Cristo Range, geology of H, Ann 9, pp 108–139
Sawatch Range, geology of H, Ann 9, pp 150–175
section, geologic, in. (See Section, geologic, in Colorado.)
Sierra El Late, geology of H, Ann 9, pp 272–274
silver and gold mines of H, Ann 3, pp 87–89; H, Ann 1–3, pp 187–189
silver mining in Georgetown district K, III, pp 589–605
Snake River region, silver mines in K, III, pp 617–624
Sneffels, Mount, ascent of H, Bull, vol I, ser 2, No 3, pp 193–199
Sopris Peak, geology of H, Ann 8, pp 61–63
South Park, fishes of Tertiary shales of H, Bull, vol I, ser 2, No 1, pp 3–5
geology of H, Ann 3, pp 79–81; H, Ann 1–3, pp 179–181; H, Ann 7, pp 36–39, 212–225
topographic features of H, Ann 9, pp 419–431
South Platte drainage basin, cultivable areas on H, Ann 10, pp 323–326
Spanish Peaks, description of H, Bull, vol III, No 3, pp 551–552
volcanic rocks of H, Ann 9, pp 131–136
Spanish Peaks region, geology of W, 1879, pp 271–281
spiders from, descriptions of two new H, Bull, vol III, No 2, pp 528–529
springs near Colorado City H, Ann 3, pp 118–120; H, Ann 1–3, pp 116–118
stratigraphy and Pliocene vertebrate paleontology of northern H, Bull, vol I, ser 1, No 1, pp 9–28
Tarryall Range, topographic features of H, Ann 9, pp 411–412
temperature in, compared with eastern cities H, Ann 9, p 355
Tertiary lake basin at Florissant H, Bull, vol VI, No 2, pp 279–300
Tineina of H, Bull, vol III, No 1, pp 121–142
distribution of H, Bull, vol III, No 1, pp 147–150
topographic map of. (See Map, topographic, Colorado.)
triangulation in H, Bull, vol III, No 3, pp 706–728; H, Ann 10, pp 275–310
Trinidad, astronomical determinations at W, II, pp 289–312
Trinidad region, geology of H, Ann 9, pp 192–207
Uinta Mountains, geology of eastern portion of UM
Uncompahgre Plateau, geology and topography of ... H, Ann 9, pp 40–43, 49–50
Uncompahgre region, physical features of W, 1876, pp 95–97
Vermillion Creek, rocks exposed on K, I, pp 142–144
Vermillion Creek Basin, geology of K, II, pp 225–227, 275–277
vertebrate paleontology of H, Ann 7, pp 427–533
water resources of western Kansas and eastern H, Ann 4, pp 448–452
West Plum Creek, geology near H, Ann 3, p 40; H, Ann 1–3, p 140
White River district, geology of H, Ann 10, pp 61–131
topographical report on H, Ann 10, pp 349–357
Williams River Mountains, geology of H, Ann 7, pp 189–192
Yampa Plateau, geology of K, II, pp 282–286
structure of UM, pp 202–203
Yampa River district, topographical report on H, Ann 10, pp 359–378
Yampa Valley, geology of upper K, II, pp 181–187
Yampa Valley and Browns Park, geology of K, II, pp 222–225
(See, also, Fortieth Parallel region.)
Colorado City, Colorado, geology between Denver and H, Ann 3, pp 37–46; H, Ann 1–3, pp 137–146

Colorado City, Colorado, geology between Fort Union and.....H, Ann 3, pp 47–58
springs near.....H, Ann 3, pp 118–120; H, Ann 1–3, pp 116–118
Colorado district, Nevada, notes on.....W, 1876, pp 61–62
Colorado group, fossils of, from Bear River Valley, Colorado, list of..H, Ann 11, p 266
of Colorado, Colorado Range.....K, II, pp 41–45
Huerfano Park.....H, Ann 9, pp 126–127
northwestern.....H, Ann 10, pp 30–31
San Juan drainage basin.....H, Ann 9, pp 183–187
south central, and New Mexico, north central.....W, III, Supp, pp 95–101
Spanish Peaks region.....W, 1879, pp 276–277
White River district.....H, Ann 10, pp 75–76, 109
of Fortieth Parallel region.....K, I, p 305–320
of New Mexico, north-central, and Colorado, south-central.....W, III, Supp, pp 95–101
of Utah, White River district.....H, Ann 10, pp 74–75, 109
of Wyoming, Colorado Range.....K, II, pp 41–45
Sweetwater Valley.....H, Ann 11, p 109
Whisky Gap, vicinity of.....H, Ann 11, pp 122–123
Wind River Range, vicinity of.....H, Ann 11, p 85
(See, also, Cretaceous No. 2.)
Colorado Plateau, geology of.....W, III, pp 227–301
Colorado Plateau system, description of.....W, III, pp 43–57
Colorado or Front Range, Colorado-Wyoming, Archean rocks of.....K, I, pp 17–28
of east slope, geology of, from Cache la Poudre River to Pikes Peak..H, Ann 7, pp 17–36
geology of.....H, Ann 4, pp 112–119; H, Ann 8, pp 40–46; K, II, pp 2–72
from Denver to Colorado Springs.....H, Ann 7, pp 194–212
Jurassic rocks of.....K, I, pp 285–289
surface features of, notes on.....H, Bull, vol I, ser 2, No 4, pp 216–220
topographic features of.....H, Ann 9, pp 414–417
Triassic rocks of.....K, I, pp 249–258
Colorado River, canyons of.....W, III, pp 67–85
diversion of, proposed.....W, 1876, pp 70–77, 109–125
explorations of, account of.....W, I, pp 147–171; ECR, pp 3–145
irrigable lands in basin of, in Utah.....AL, pp 150–164
Colorado Valley, birds of, a repository of information concerning North American ornithology.....H, Miscl 11
physical features of.....ECR, pp 149–214
Colorado Springs, Colorado, astronomical observations at.....W, Uncl 3, pp 47–82
geology near.....H, Ann 6, pp 100–104
Coloradoite, analysis of, from Colorado, Ballerat district, Smuggler mine, and Boulder County, Keystone mine.....H, Ann 10, p 142
Columbus district, Nevada, notes on.....W, 1871, p 48
Comstock lode, mines of, workings of.....K, III, pp 97–191
ores of, treatment of.....K, III, pp 193–272
reports on.....W, 1877, pp 1284–1285; W, 1878, pp 145–166
structure, ores, etc., of.....K, III, pp 37–96
Confidence district, California, notes on.....W, 1878, pp 86–87
Conglomerate, analysis of, from Wyoming, Blacks Fork, vicinity of.....K, II, p 248
Conglomerates, formation of.....HP, pp 214–224
of Utah, high plateaus.....HP, pp 74–77
Conklin (A. R.), geological report on portions of western Nevada and eastern California.....W, 1878, pp 167–183

Conklin (A. R.), geological report on the portions of western Nevada and eastern California between the parallels of 39° 30′ and 38° 30′ explored in the field season of 1876.....W, 1877, pp 1285–1295
report on the foothills facing the plains from latitude 35° 30′ to 38°....W, 1877, pp 1298–1303
report on the geology of the mountain ranges from La Veta Pass to the head of the Pecos.....W, 1876, pp 199–202
report on the lithology of southern Colorado and northern New Mexico, W, 1877, pp 1295–1298
report on the lithology and mineralogy of portions of Nevada and California.....W, 1878, pp 184–185
Conrad (T. A.), descriptions of new mollusks from Cretaceous beds of Colorado.....H, Ann 7, pp 455–456
Contour map of United States, notes on.....H, Bull, vol II, No 3, pp 223–226
Coopers Creek, Wyoming, geology near.....LOR, 1868, pp 242–243; H, Ann 2, pp 89–90
Cope (E. D.), contribution to the knowledge of the ichthyological fauna of the Green River shales.....H, Bull, vol III, No 4, pp 806–819
descriptions of fishes from the Cretaceous and Tertiary deposits west of the Mississippi River.....H, Bull, vol IV, No 1, pp 67–77
descriptions of new extinct vertebrata from the upper Tertiary and Dakota formations.....H, Bull, vol IV, No 2, pp 379–396
notes on the Eocene and Pliocene lacustrine formations of New Mexico, including descriptions of certain new species of vertebrates..W, 1874, pp 115–130
observations on the faunæ of the Miocene Tertiaries of Oregon...H, Bull, vol V, No 1, pp 55–69
on a carnivorous Dinosaurian from the Dakota beds of Colorado...H, Bull, vol III, No 4, pp 805–806
on a wading bird from the Amyzon shales.....H, Bull, vol VI, No 1, pp 83–85
on some new batrachia and reptilia from the Permian beds of Texas. H, Bull, vol VI, No 1, pp 79–82
on the Canidæ of the Loup Fork epoch.....H, Bull, vol VI, No 2, pp 387–390
on the extinct species of Rhinoceridæ of North America and their allies. H, Bull, vol V, No 2, pp 227–237
on the extinct vertebrata of the Eocene of Wyoming, observed by the expedition of 1872, with notes on the geology....H, Ann 6, pp 543–649
on the fishes of the Tertiary shales of Green River, Wyoming.....H, Ann 4, pp 425–431
on the fishes of Tertiary shales of the South Park.....H, Bull, vol I, ser 2, No 1, pp 3–5
on the fossil reptiles and fishes of the Cretaceous rocks of Kansas.....H, Ann 4, pp 385–425
on the genus Erisichte.....H, Bull, vol III, No 4, pp 821–823
on the geology and paleontology of the Cretaceous strata of Kansas...H, Ann 5, pp 318–349
on the Nimravidæ and Canidæ of the Miocene period.....H, Bull, vol VI, No 1, pp 165–181
on the Plagopterinæ and the ichthyology of Utah.....W, Uncl 8
on the vertebrata of the Wind River Eocene beds of Wyoming..H, Bull, vol VI, No 1, pp 183–202
on the vertebrate fossils of the Wahsatch strata.....H, Ann 5, pp 350–353
Professor Owen on the Pythonomorpha.....H, Bull, vol IV, No 1, pp 299–311

Cope (E. D.), recent reptiles and fishes; report on the reptiles and fishes obtained by the naturalists of the expedition...H, Ann 4, pp 432–442
report on geology of northwestern New Mexico.....W, 1875, pp 61–97
report on geology of the region of the Judith River, Montana, and on vertebrate fossils obtained on or near the Missouri River.....H, Bull, vol III, No 3, pp 565–597
report on the recent reptiles and fishes of the survey, collected by Campbell Carrington and C. M. Dawes.....H, Ann 5, pp 467–476
report on the remains of population observed in northwestern New Mexico W, VII, pp 351–361
report on the remains of population observed on and near the Eocene plateau of northwestern New Mexico W, 1875, pp 166–173
report on the stratigraphy and Pliocene vertebrate paleontology of northern Colorado H, Bull, vol I, ser 1, No 1, pp 9–28
report on the vertebrate paleontology of Colorado.....H, Ann 7, pp 427–533
report upon the extinct vertebrata obtained in New Mexico by parties of the expedition of 1874.....W, IV, part II
review of the Rodentia of the Miocene period of North America.....H, Bull, vol VI, No 2, pp 361–386
review of the vertebrata of the Cretaceous period found west of the Mississippi River.....H, Bull, vol I, ser 1, No 2, pp 5–48
supplementary notices of fishes from the fresh-water Tertiaries of the Rocky Mountains.....H, Bull, vol I, ser 1, No 2, pp 49–51
systematic catalogue of the vertebrata of the Eocene of New Mexico..W, Uncl 9
the relations of the horizons of extinct vertebrata of Europe and North America.....H, Bull, vol V, No 1, pp 33–54
the vertebrata of the Cretaceous formations of the West H, Mon II
the vertebrata of the Tertiary formations of the West.....H, Mon III
Cope (E. D.) and Yarrow (H. C.), report upon the collections of fishes made in portions of Nevada, Utah, California, Colorado, New Mexico, and Arizona, 1871–1874.....W, V, pp 635–703
Cope district, Nevada, notes on W, 1871, p 34
Copper ore, analysis of, from Arizona, San Francisco River.....W, III, p 636
analysis of, from New Mexico, Springhill district.....W, III, p 636
Coprolite, analysis of, from Kansas.....H, Ann 9, p 286; H, Bull, vol II, No 3, p 217
Correlation of Archean rocks exposed in Fortieth Parallel area.....K, I, pp 99–111
Cortez district, Nevada, mining in.....K, III, pp 405–407
Cortez Range, Nevada, geology of.....K, II, pp 570–589
granite of.....K, I, pp 70–74
Cottonwood Canyon, Utah, Paleozoic rocks of.....K, I, pp 165–172
Coues (E.), abstract of a study of the genera Geomys and Thomomys.....ECR, pp 217–279
an account of the various publications relating to the travels of Lewis and Clarke, with a commentary on the zoological results of their expedition.....H, Bull, vol I, ser 2, No 6, pp 417–444
bibliography of American ornithology H, Bull, vol V, No 2, pp 239–330; H, Bull, vol V, No 3, pp 521–1066
birds of the Colorado Valley.....H, Miscl 11
birds of the Northwest.....H, Miscl 3
field notes on birds observed in Dakota and Montana along the forty-ninth parallel during seasons of 1873 and 1874..H, Bull, vol IV, No 3, pp 545–661
fur-bearing animals.....H, Miscl 8
on a breed of solid-hoofed pigs, apparently established in Texas..H, Bull, vol IV, No 1, pp 295–297

Coues (E.), on consolidation of the hoofs in the Virginian deer..H, Bull, vol IV, No 1, pp 293–294
on the breeding habits, nest, and eggs of the white-tailed ptarmigan (Lagopus leucurus).....H, Bull, vol I, ser 2, No 5, pp 263–266
on the cranial and dental characters of Mephitinæ, with descriptions of Mephitis frontata.....H, Bull, vol I, ser 2, No 1, pp 7–15
on the present status of Passer domesticus in America, with special reference to the Western States and Territories....H, Bull, vol V, No 2, pp 175–193
precursory notes on American insectivorous mammals, with descriptions of new species.....H, Bull, vol III, No 3, pp 631–653
some account, critical, descriptive, and historical, of Zapus hudsonius..H, Bull, vol I, ser 2, No 5, pp 253–262
the cranial and dental characters of Geomyidæ.....H Bull, vol I, ser 2, No 2, pp 83–90
synopsis of the reptiles and batrachians of Arizona W, V, pp 585–633
Coues (E.) and Allen (J. A.), monographs of North American Rodentia..H, Mon XI
Coues (E.) and Yarrow (H. C.), notes on the herpetology of Dakota and Montana.....H, Bull, vol IV, No 1, pp 259–291
report upon the collections of mammals made in portions of Nevada, Utah, California, Colorado, New Mexico, and Arizona, 1871–1874.....W, V, pp 35–129
Coulter (J. M.), botany, report on [1872].....H, Ann 6, pp 747–792
Coulter (J. M) and Porter (T. C.), synopsis of the flora of Colorado.....H, Miscl 4
Cranberry, insects affecting H, Ann 10, pp 521–526
Crania from Santa Barbara Islands,, California, observations on..W, VII, pp 277–292
(See, also, Ethnology and archæology.)
Crania and skeletons collected in 1872–1874, notes on.....W, VII, pp 391–397
(See, also, Ethnology and archæology.)
Cranial amulets and prehistoric trephining.....Eth, V
(See, also, Ethnology and archæology.)
Cranium from Chaco Canyon, New Mexico, report on.....H, Ann 10, pp 453–457
(See, also, Ethnology and archæology.)
Crayfish from Lower Tertiary beds of western Wyoming.....H, Bull, vol VI, No 2, pp 391–397
Cresson (E. T.), report on the collections of Hymenoptera made in portions of Nevada, Utah, New Mexico, Colorado, and Arizona, 1872–1874.. W, V, pp 705–736
Cretaceous No. 1 of Colorado, east of Front Range H, Ann 7, pp 100–101
of Colorado, San Juan region.....H, Ann 8, pp 222–224
(See, also, Dakota group.)
Cretaceous No. 2 of Colorado, east of Front Range.....H, Ann 7, pp 101–102
of Colorado, San Juan region.....H, Ann 8, pp 224–228
(See, also, Colorado group.)
Cretaceous No. 2 and No. 3 of Colorado; Eagle, Grand, and Gunnison rivers.. H, Ann 8, pp 135–137
Cretaceous No. 3 of Colorado, east of Front Range H, Ann 7, pp 102–103
Cretaceous No. 4 and No. 5 of Colorado, east of Front Range..H, Ann 7, pp 103–105
Cretaceous fossils, geographical distribution of, table showing..H, Ann 11, pp 252–253
invertebrates, corals of Colorado, remarks on...H, Bull, vol V, No 2, pp 220–221
mollusks of Colorado.....H, Ann 7, pp 455–456
of Arizona, Utah, Colorado, and New Mexico.....W, IV, pp 169–205
of Black Hills BH, pp 383–459; PBH, pp 27–46
of Colorado.....H, Ann 11, pp 175–177, 197, 205–207, 224–225, 265–266

Cretaceous fossils; invertebrates of Colorado, Bear Creek Valley, list of..H, Ann 11, pp 265–266
invertebrates of Colorado, Cache la Poudre Valley and Fossil Ridge..H, Ann 11, pp 175–177
of Colorado, Golden and Morrison, list of.....H, Ann 11, p 197
Greeley, vicinity of.....H, Ann 11, p 266
Sage Creek.....H, Ann 11, pp 205–207
White River Indian Agency, vicinity of.....H, Ann 11, pp 224–225
of Colorado, New Mexico, Utah, and Arizona.....W, IV, pp 169–205
of Fortieth Parallel region.....K, IV, pp 140–182
of Fox Hills group of Colorado, east of Rocky Mountains.....H, Ann 11, pp 179–186, 266
of New Mexico, list of.....H, Ann 11, pp 267–268
of New Mexico and Utah.....W, Uncl 6, pp 24–27
of New Mexico, Utah, Arizona, and Colorado.....W, IV, pp 169–205
of Plateau province.....UM, pp 94–101, 112–124
of Southwest.....W, IV, pp 169–205
of Texas; Denison, Hilotes, and Salado, list of.....H, Ann 11, pp 268–270
of Utah, Ashley Fork.....H, Ann 11, p 229
Coalville.....H, Ann 11, pp 232–239
of Utah and New Mexico.....W, Uncl 6, pp 24–27
of Utah and Wyoming, list of, collected in 1871.....H, Ann 5, pp 375–376
of Utah, Colorado, New Mexico, and Arizona.....W, IV, pp 169–205
of western States and Territories.....H, Ann 11, pp 273–319; H, Ann 12, I, pp 3–39
descriptions of new species of.....H, Ann 4, pp 300–318
list of.....H, Bull, vol III, No. 3, p 610
of Wyoming, Bear River Valley and Hilliard station..H, Ann 11, pp 248–250
of Wyoming and Utah, list of.....H, Ann 5, pp 375–376
(See, also, Invertebrates, fossil.)
of Colorado, various localities.....H, Ann 11, pp 175–177, 197, 205–207, 224–225, 265–266
of Montana, Utah, and Wyoming.....H, Ann 6, pp 435–462, 474–478, 487–516
of New Mexico, Cimarron, list of.....H, Ann 11, pp 267–268
of Utah and Wyoming, list of.....H, Ann 5, pp 375–376
of Utah, Wyoming, and Montana.....H, Ann 6, pp 435–462, 474–478, 487–516
of western States and Territories.....H, Ann 4, pp 300–318; H, Ann 11, pp 273–319; H, Ann 12, I, pp 3–39
of Wyoming, Bear River Valley.....H, Ann 11, pp 248–249
Hilliard station.....H, Ann 11, pp 249–250
of Wyoming and Utah.....H, Ann 5, pp 375–376
of Wyoming, Utah, and Montana.....H, Ann 6, pp 435–462, 474–478, 487–516
(See, also, Vertebrates, fossil; Invertebrates, fossil.)
plants of Cretaceous and Tertiary formations of Kansas and Nebraska..H, Ann 4, pp 370–385
of Cretaceous and Tertiary of North America, catalogue of.....H, Ann 10, pp 487–520
of Territories, illustrations of.....H, Uncl 15
of Dakota group, general characters and relation of.....H, Bull, vol I, ser 1, No 2, pp 52–62
new species of.....H, Bull, vol I, ser 2, No 5, pp 391–400.
of western Territories.....H, Mon VI
of North America, review of.....H, Ann 8, pp 316–365
(See, also, Plants, fossil.)
vertebrates, Dinosaurian, carnivorous, from Dakota beds of Colorado...H, Bull, vol III, No 4, pp 805–806

Cretaceous fossils, vertebrates, fishes of Cretaceous and Tertiary west of Mississippi River H, Bull, vol IV, No 1, pp 67–77
vertebrates of Colorado H, Ann 7, pp 444–456
of Dakota and upper Tertiary formations .. H, Bull, vol IV, No 2, pp 379–396
of Kansas H, Ann 5, pp 327–349
of Missouri River region H, Bull, vol III, No 3, pp 577–597
of North America, synopsis of H, Mon II, pp 245–302
of West H, Mon II; H, Bull, vol I, ser 1, No 2, pp 5–48
reptiles and fishes of interior region H, Mon I, pp 266–310
of Kansas H, Ann 4, pp 385–425
(See, also, Vertebrates, fossil.)
(See, also, Laramie fossils; Cretaceous and Tertiary fossils.)
Cretaceous rocks, classification and distribution of H, Mon II, pp 15–41
of Basin Ranges W, III, p 174
of Black Hills BH, pp 169–186
of Colorado, central W, III, pp 382–403
Eagle, Grand, and Gunnison rivers H, Ann 8, pp 128–139
Front Range H, Ann 8, pp 45–46
east of H, Ann 7, pp 100–105
Grand River district H, Ann 9, pp 87–92; H, Ann 10, pp 180–181
Huerfano Park H, Ann 1, pp 123–127
Middle Park H, Ann 7, pp 154–156
northwestern H, Ann 10, pp 28–32
San Juan drainage basin H, Ann 9, pp 180–189
San Juan region H, Ann 8, pp 221–228; H, Ann 9, pp 257–263
south-central, and New Mexico, north-central W, III, Supp, pp 88–130
White River district H, Ann 10, pp 74–77
of Colorado Plateau W, III, pp 274–280
of Fortieth Parallel region K, I, pp 296–339, 347–357
of Idaho, eastern, and Wyoming, western H, Ann 11, p 497
of Kansas H, Ann 9, pp 281–294
geology and paleontology of H, Ann 5, pp 318–349
notes on H, Bull, vol II, No 3, pp 214–221
of Missouri River region, upper H, Mon IX, pp xxi–xxxviii
parallelism with Cretaceous of Europe H, Mon IX, pp xliii–xlvii
relation to beds of the Mississippi H, Mon IX, pp xxxviii–xlii
of Nebraska LOR, 1867, pp 167–173; H, Ann 1, pp 49–55
of New Mexico, north-central, and Colorado, south-central W, III, Supp, pp 88–130
of Utah, Henry Mountains HM, pp 4–5
high plateaus HP, pp 154–158
Uinta Mountains UM, pp 153–158
White River district H, Ann 10, pp 74–77, 108–109
of West, mutual relations of Tertiary and H, Ann 7, pp 431–444
of Wyoming, Sweetwater Valley H, Ann 11, pp 108–109
western H, Ann 11, p 629
western, and Idaho, eastern H, Ann 11, p 497
Wind River Range, east of H, Ann 11, pp 84–87
(See, also, Laramie; names of formations.)
Cretaceous uplift of Bitter Creek, Wyoming K, II, pp 227–236
of Oyster Ridge, Wyoming K, II, pp 250–253
Cretaceous and Tertiary fossils, fishes west of Mississippi River .. H, Bull, vol IV, No 1, pp 67–77

Cretaceous and Tertiary fossils, invertebrates of upper Missouri country...H, Mon IX
plants of Kansas and Nebraska, fossil.....H, Ann 4, pp 370–385
of North America, catalogue of H, Ann 10, pp 487–520
of western Territories H, Mon VIII
illustrations of H, Uncl 15
(See, also, Invertebrates, fossil; Vertebrates, fossil; Plants, fossil.)
Cretaceous and Tertiary periods of Kansas, notes on.....H, Ann 9, pp 277–294
Cretaceous and Tertiary formations of the West, mutual relations of.....H, Bull, vol I, ser 1, No 2, pp 5–16
Crow Creek, Wyoming, geology near H, Ann 11, p 554
Crustacean, Lernæan, of Colorado, description.....H, Ann 7, p 612
Crustaceans, amphipod, report on H, Ann 7, pp 608–611
fresh-water phyllopod, of North America, synopsis of.....H, Ann 7, pp 613–622
phyllopod, bibliography of H, Ann 12, I, pp 453–457
of North America, monograph of.....H, Ann 12, I, pp 295–457
of the West, descriptions of new H, Bull, vol III, No 1, pp 171–185
(See, also, Invertebrates.)
Cultivation, experiments in, on the plains along the line of the Kansas Pacific Railway.....H, Ann 5, pp 274–279
Cup-shaped and lapidarian sculptures in the Old World and America Eth, V
(See, also, Ethnology and archæology.)
Crystalline schists of Fortieth Parallel region, microscopic petrography of K, VI, pp 14–38
Dakota, ancient mounds of H, Ann 6, pp 655–658
birds of Fort Sisseton, notes on.....H, Bull, vol V, No 1, pp 71–103
of Montana and along forty-ninth parallel, field notes on.....H, Bull, vol IV, No 3, pp 545–661
elevations in.....H, Miscl 1 (3d ed), p 13; H, Miscl 1 (4th ed), pp 66–67
fishes of Montana and, collected in 1873 and 1874, report on H, Bull, vol IV, No 4, pp 777–799
Hemiptera collected in Montana and, in 1873–74.....H, Bull, vol IV, No 2, pp 503–512
herpetology of Montana and H, Bull, vol IV, No 1, pp 259–291
locusts in.....H, Ann 9, p 621; H, Uncl 14, pp 88–92, App, pp 243–248
mammals of Fort Sisseton.....H, Bull, vol IV, No 1, pp 201–218
physical geography and agricultural resources of Nebraska, Minnesota, and H, Ann 6, pp 273–313
Orthoptera collected in Montana and, in 1873, discussion of H, Bull, vol IV, No 2, pp 481–501
plants collected in Montana and, along forty-ninth parallel, catalogue of H, Bull, vol IV, No 4, pp 801–830
Dakota group, considered as a marine formation H, Mon VI, pp 25–28
flora of.....H, Mon VI; H, Mon VIII, pp 2–107
general characters and relation of H, Bull, vol I, ser I, No 2, pp 52–62
invertebrate fossils of, from the West, list of H, Bull, vol III, No 3, p 610
of Black Hills BH, pp 174–180
of Colorado, Colorado Range.....K, II, pp 39–41
Dinosaurian from H, Bull, vol III, No 4, pp 805–806
Eagle, Grand, and Gunnison rivers.....H, Ann 8, pp 128–135
Grand River district.....H, Ann 9, pp 88–91; H, Ann 10, p 180
Huerfano Park H, Ann 9, pp 124–126
northwestern.....H, Ann 10, pp 29–30
San Juan drainage basin.....H, Ann 9, pp 181–183
south-central, and New Mexico, north-central.....W, III, Supp, pp 88–94

Dakota group of Colorado, Spanish Peak region.....W, 1879, p 276
of Colorado, White River district.....H, Ann 10, pp 74–75, 108
of Fortieth Parallel region.....K, I, pp 298–305
of Kansas.....H, Ann 9, pp 290–294
of Missouri country, upper.....H, Mon IX, pp xxvi–xxviii
of Nebraska.....LOR, 1867, pp 168–171; H, Ann 1, pp 50–53
of New Mexico, north-central, and Colorado, south-central.....W, III, Supp, pp 88–94
of Utah, White River district.....H, Ann 10, pp 74–75, 108
of Wyoming, Colorado Range.....K, II, pp 39–41
Seminole Hills, vicinity of.....H, Ann 11, p 121
Sweetwater Valley.....H, Ann 11, pp 108–109
Wind River Range, vicinity of.....H, Ann 11, p 84
plants of, new species of.....H, Bull, vol I, ser 2, No 5, pp 391–400
vertebrata from upper Tertiary and.....H, Bull, vol IV, No 2, pp 379–396; H, Bull, vol IV, No 3, pp 663–667
(See, also, Cretaceous No 1.)
Dakota nation, calendar of.....H, Bull, vol III, No 1, pp 3–25
texts and ethnography.....Eth, IX
(See, also, Ethnology and archæology.)
Dakota-English dictionary.....Eth, VII
(See, also, Ethnology and archæology.)
Dacite, analysis of, from Italy, Monte Alto.....K, VI, p 137
analysis of, from Karinthia, New Prevali.....K, VI, p 137
from Nevada, American City.....K, VI, p 136
Shoshone Peak.....K, II, p 621
Washoe and Shoshone Peak.....K, I, p 576
from Transylvania, various localities.....K, VI, p 137
of Nevada, microscopic petrography of.....K, VI, pp 134–142
of Nevada Plateau.....K, I, pp 567–571
Dall (W. H.), terms of relationship used by the Innuit.....Eth, I, pp 117–119
tribes of the extreme Northwest.....Eth, I, pp 1–106
Dance at the pueblo of Zuñi, description of.....W, VII, pp 332–336
(See, also, Ethnology and archæology.)
Deep Spring Valley district, California, notes on.....W, 1871, pp 49–50
Deer, Virginian, consolidation of hoofs of.....H, Bull, vol IV, No 1, pp 293–294
(See, also, Vertebrates.)
Denmark, primitive lapidarian sculptures in.....Eth, V, pp 25–28
Denver, Colorado, birds collected in vicinity of.....W, Uncl 4, pp 55–69
communication between San Juan mines and, means of.....H, Bull, vol I, ser 2, No 3, pp 145–149
geology between Cheyenne and...H, Ann 3, pp 11–37; H, Ann 1–3, pp 111–137
between Colorado City and...H, Ann 3, pp 37–46; H, Ann 1–3, pp 137–146
Deposit at Soda Lakes, Nevada, analysis of.....K, II, p 748
Deposit, mineral, analysis of, from Nevada, Bardmass Pass, vicinity of...K, II, p 687
Deposit, spring, analysis of, from Nevada, Shoshone Range.....K, II, p 634
Desatoya Mountains, Nevada, geology of.....K, II, pp 644–649
Triassic rocks of.....K, I, pp 282–284
Desert Mountains, Utah, granite of.....K, I, p 55
Desiccation products, analysis of, from Lake Bonneville.....K, I, p 502
analysis of, from Lake Lahontan.....K, I, p 528
Devonian fossils, invertebrates of Fortieth Parallel region...K, IV, pp 25–50, 246–251
Devonian rocks of Colorado, San Juan region.....H, Ann 8, pp 211–214
of Wyoming, Wind River Range.....H, Ann 11, p 73

Diabase, analysis of, from Nevada, Diabase Hills.....K, II, p 812
analyses of, from Nevada, Wadsworth, vicinity of.....K, I, p 676
of Nevada, microscopic petrography of.....K, VI, pp 97–102
Diamond Creek, New Mexico, cliff house and cave on.....W, VII, pp 370–371
Diamond district, Nevada, notes on.....W, 1871, p 36
Diamond Peak, Colorado, structure of.....UM, pp 204–206
Diamond Range, Nevada, geology of.....K, II, pp 549–551
Diastrophism, displacements in Colorado, northwestern.....H, Ann 10, pp 40–51
faulting in Yellowstone Park.....H, Ann 12, II, pp 5–9
faulting and folding in Colorado, Elk Range.....H, Ann 8, pp 68–71
faults and folds of Colorado Plateau.....W, III, pp 289–297
folds in Utah, Henry Mountains.....HM, pp 11–13
folding in Colorado, northwestern.....H, Ann 10, pp 48–51
uplifts in Colorado, northwestern.....H, Ann 10, pp 41–48
Dictionary, Dakota-English.....Eth, VII
of Hidatsa language.....H, Miscl 7, pp 125–239
of Klamath language.....Eth, II, pt 2, pp 13–701
(See, also, Ethnology and archæology; Vocabulary.)
Dikes of Colorado, Spanish Peaks region.....H, Ann 9, pp 132–136
of Colorado and Utah, White River district.....H, Ann 10, p 113
Dinosaurian, carnivorous, from Dakota of Colorado..H, Bull, vol III, No 4, pp 805–806
(See, also, Vertebrates, fossil.)
Diorite, analysis of, from Nevada, Agate Pass.....K, II, p 574
analysis of, from Nevada, Shoshone Range and Mount Davidson.....K, I, p 676
of Fortieth Parallel region, microscopic petrography of.....K, VI, pp 83–93
Diptera collected in Colorado in 1873.....H, Ann 7, pp 561–566
collected in Colorado and Arizona.....W, V, pp 803–807
descriptions of new genera and species of, from the West.....H, Bull, vol III, No 2, pp 189–354
(See, also, Invertebrates.)
Dirty Devil River, report on a trip to the mouth of.....ECR, pp 134–145
Displacements in Colorado, northwestern.....H, Ann 10, pp 40–51
Dolerite, analysis of, from Nevada, Shoshone Mesa.....K, II, p 617
of Colorado, occurrence and character of.....H, Ann 10, pp 245–246
Dolores River, Colorado, geology near.....H, Ann 9, pp 53–58, 263–266
Dorsey (J. O.), the Ɂegiha language.....Eth, VI
Drift in Colorado, northwestern.....H, Ann 10, pp 55–57
in Colorado, Sangre de Cristo Range.....H, Ann 9, pp 136–138
in Nebraska.....H, Ann 8, pp 243–245
Dry Mountains, Colorado, structure of.....UM, pp 206–208
Drummond (W., jr.), land grants in aid of internal improvements...AL, pp 165–182
Dutton (C. E.), irrigable lands of the valley of the Sevier River....AL, pp 128–149
petrographic notes on the volcanic rocks of the Yellowstone Park.....H, Ann 12, II, pp 57–62
report on the geology of the high plateaus of Utah.....HP
report on the lithologic character of the Henry Mountain intrusives.....HM, pp 61–65
Eagle River, Colorado, geology along.....H, Ann 7, pp 70–78
Eagle River Mountains, Colorado, topographic features of....H, Ann 7, pp 383–384
Eagle River Valley, Colorado, geology of.....H, Ann 8, pp 79–84, 106–107, 111, 113, 114–116, 118–120, 122, 124–125, 129–130, 135, 171–172
Earth, infusorial. (See, Infusorial earth.)
Earwigs, synopsis of North American.....H, Bull, vol II, No 3, pp 249–260
(See, also, Invertebrates.)

East Fork Canyon, Utah, geology of HP, pp 243–248
East Gallatin Mountains, Wyoming, geology of H, Ann 12, II, pp 19–27
East Humboldt Range, Nevada, geology of K, II, pp 528–541
Eaton (D. C.), descriptions of plants by K, V, pp 136–208, 394–397
ferns of the Southwest W, VI, pp 299–340
list of species of butterflies collected by Campbell Carrington and William B. Logan in 1871 H, Ann 5, pp 466–467
list of species of butterflies collected by W. H. Carpenter in Colorado in 1873 H, Ann 7, p 542
on the Lepidoptera collected by Dr. Elliott Coues in Montana during 1874 H, Bull, vol IV, No 2, pp 513–517
Eels (M.), the Twana Indians of the Skokomish Reservation in Washington Territory H, Bull, vol III, No 1, pp 57–114
Efflorescence, analysis of, from Lake Bonneville K, I, p 502
analysis of, from Lake Lahontan K, I, p 528
from Nevada, Buffalo Peak, vicinity of K, II, p 731
Hot Springs station K, II, p 773
from New Mexico, Ojo de Tao W, III, p 628
from Utah, Benada Peak, vicinity of K, II, p 423
Egan Canyon district, Nevada, geology of, and mining in K, III, pp 445–449
Egan Range, Nevada, geology of K, II, pp 486–489
El Paso district, California, notes on W, 1871, p 52
Elevation of Rocky Mountains near Missouri River, period of ... H, Uncl 16, pp 9–13
Elevations in Black Hills BH, pp 551–553
in Colorado H, Ann 7, pp 667–669, 678–681; H, Ann 8, pp 429–433; H, Bull, vol I, ser 1, No 2, pp 75–77
Sangre de Cristo Range H, Ann 9, pp 299, 300
in Dakota, Minnesota, and Nebraska H, Ann 6, pp 286–297
in Idaho, Wyoming, and Utah H, Ann 6, pp 799–802
in Minnesota, Dakota, and Nebraska H, Ann 6, pp 286–297
in Yellowstone Park H, Ann 12, II, pp 457–463
lists of H, Bull, vol V, No 3, pp 441–470; W, 1878, pp 68–78; W, Uncl 16, pp 121–261
methods of determining H, Ann 10, pp 299–303
of certain datum points on the Great Lakes and rivers and in the Rocky Mountains H, Ann 7, pp 629–659
west of Mississippi River H, Miscl 1
of one hundredth meridian W, II, pp 556–566
Elk Mountain region, Wyoming, geology of LOR, 1868, pp 244–245; H, Ann 2, pp 91–92; K, II, pp 148–152
Elk Mountains, Colorado, eruptive masses in H, Bull, vol III, No 3, pp 555–557
geology of H, Ann 7, pp 58–69, 250–261; H, Ann 8, pp 54–71
mines in H, Ann 7, pp 304–305
Elkhead Mountains, Colorado, geology of K, II, pp 167–180
Ellen, Mount, Utah, geology of HM, pp 38–49
Elliott (H. W.), profiles, sections, and other illustrations H, Uncl 3
Elliott (R. S.), experiments in cultivation on the plains along the line of the Kansas Pacific Railway H, Ann 5, pp 274–279
report on the industrial resources of western Kansas and eastern Colorado H, Ann 4, pp 442–458
Ellsworth, Mount, Utah, geology of HM, pp 22–27
Ely district, Nevada, notes on W, 1871, pp 42–43
Emerton (J. H.), descriptions to two new spiders from Colorado H, Bull, vol III, No 2, pp 528–529

Empire, Colorado, mines at.....H, Ann 3, p 114; H, Ann 1–3, p 112
Emmons (S. F.), geology of Egan Canyon district.....K, III, pp 445–449
geology of Toyabe Range.....K, III, pp 320–348
Emmons (S. F.), and Hague (A.), descriptive geology of Fortieth Parallel region..... K, II
Endlich (F. M.), mineralogical report of H, Ann 10, pp 133–159
on some striking products of erosion in Colorado H, Bull, vol IV, No 4, pp 831–864
on the erupted rocks of Colorado.....H, Ann 10, pp 199–272
report on geology of Sweetwater district, Wyoming.....H, Ann 11, pp 3–158
report on geology of the White River district H, Ann 10, pp 61–131
report on mining districts of Colorado.....H, Ann 7, pp 275–361
report on southeastern district of Colorado H, Ann 9, pp 105–235
report on the mines and geology of the San Juan country.....H, Bull, vol I, ser 2, No 3, pp 151–164
work by, report on, 1874.....H, Ann 8, pp 181–240
Engelmann (G.), Cactaceæ of Great Basin.....K, V, pp 115–120
descriptions of plants collected in Nevada, Utah, Arizona, New Mexico, and Colorado W, VI, pp 127–132, 187–197, 206–207, 242–264, 267–268, 272–274, 368, 374–375
England, primitive lapidarian sculptures in.....Eth, V, pp 15–17
Entomological Commission, report of.....H, Uncl 14
Entomostraca, new, from Colorado H, Bull, vol III, No 1, pp 151–155
(See, also, Invertebrates.)
Eocene fossils, plants, American, general characters of.....H, Ann 6, pp 343–350
(See, also, Plants, fossils.)
vertebrata of Colorado.....H, Ann 7, pp 456–461
of New Mexico W, IV, pt 2, pp 37–282; W, 1874, pp 115–130; W, 1875, pp 93–96
systematic catalogue of.....W, Uncl 9
of Wyoming.....H, Ann 6, pp 543–649
Wind River H, Bull, vol VI, No 1, pp 183–202
(See, also, Vertebrates, fossil.)
Eocene plateau of New Mexico, geology of.....W, IV, pt II, pp 13–20; W, 1875, pp 88–93
Eocene rocks of Fortieth Parallel region K, I, pp 359–407
(See, also, Tertiary rocks.)
Eocene and Pliocene lacustrine formations of New Mexico, notes on, including descriptions of certain new species of vertebrates..W, 1874, pp 115–130
Epidote, thin section of, from diorite of Nevada, Winnemucca Peak.....K, VI, pl 3
Eremophila alpestris, osteology of..... H, Ann 12, I, pp 627–652; H, Bull, vol VI, No 1, pp 119–147
(See, also, Vertebrates.)
Erisichte, discussion of genus.....H, Bull, vol III, No 4, pp 821–823
(See, also, Vertebrates.)
Erosion in Colorado, central.....W, III, pp 471–477
in Colorado, eastern, peculiar forms of....H, Bull, vol I, ser 2, No 3, pp 210–211
Elk Mountains.....H, Ann 8, pp 57–58
in Grand Canyon.....W, III, pp 67–85
in Uinta Mountains.....UM, pp 181–198
methods of.....ECR, pp 202–208
principles of.....HM, pp 99–114
products of.....H, Bull, vol IV, No 4, pp 831–864
Eruptive mountains in Colorado, peculiar type of.....H, Bull, vol III, No 3, pp 551–564

Eruptive rocks of Arizona and New Mexico W, III, pp 638–651
of California, southeastern W, 1876, pp 179–183
(See, also, Igneous rocks; Volcanic rocks.)
Escalante Hills, Colorado, geology of K, II, pp 287–288
Ethnological examinations in California, Santa Barbara, vicinity of W, 1876, pp 312–321
in California, southern W, VII, pp 1–314
Ethnology of California, southern, and adjacent regions, notes on W, 1876, pp 321–327
Ethnology and archæology; aboriginal inhabitants of southern California W, VII, pp 1–31
aborigines, houses and house-life of American Eth, IV
Alaska, natives of, notes on Eth, I, pp 111–116
amulets, cranial, and prehistoric trephining Eth, V
art, ancient, in Colorado, northwestern H, Bull, vol II, No 1, pp 65–66
in Wyoming, Bridger Basin H, Ann 6, pp 651–653
basket work, textile fabrics, etc., of Indians of southern California W, VII, pp 239–250
bead ornaments used by ancient tribes of Arizona H, Bull, vol II, No 1, pp 67–69
beads of Indians of southern California W, VII, pp 263–271
bone, implements and weapons made of wood and W, VII, pp 222–233
musical instruments made of, from southern California W, VII, pp 234–238
cachina, a dance at the pueblo of Zuñi, description of W, VII, pp 332–336
calendar of Dakota Nation H, Bull, vol III, No 1, pp 3–25
Ҫegiha language, myths, stories, etc., in Eth, VI
cliff dwelling in Arizona, Chelly Canyon H, Ann 10, pp 420–425
crania from Santa Barbara Islands, California, notes on W, VII, pp 277–292
crania and skeletons collected in 1872–1874, notes on W, VII, pp 391–397
cranial amulets and prehistoric trephining Eth, V
cranium from New Mexico, Chaco Canyon, report on H, Ann 10, pp 453–457
cup-shaped and lapidarian sculpture in the Old World and America Eth, V
Dakota grammar, texts, and ethnography Eth, IX
Dakota language, dictionary of Eth, VII
Dakota Nation, calendar of H, Bull, vol III, No 1, pp 3–25
dance at the pueblo of Zuñi W, VII, pp 332–336
dictionary of Dakota language Eth, VII
of Hidatsa language H, Miscl 7, pp 125–239
of Indian languages, comparative Eth, I, pp 121–153, 249–285; W, VI, pp 424–485
of Klamath language Eth, II, pt 2, pp 13–701
graves, pestles and mortars from W, VII, pp 70–92
steatite cooking pots, plates, and food vessels from W, VII, pp 93–116
stone, objects made of, from W, VII, pp 190–217
stone pipes from W, VII, pp 125–134
stones, perforated, from W, VII, pp 135–189
graves and kjökkenmöddings of Oregon, coast of H, Bull, vol III, No 1, pp 27–35
of Santa Barbara Islands and adjacent mainland H, Bull, vol III, No 1, pp 37–56
Hidatsa Indians, ethnography and philology of H, Miscl 7
houses of mound builders Eth, IV, pp 198–221
houses and house life of American aborigines Eth, IV
human remains of ruins of Colorado, southwestern, and New Mexico, northern H, Bull, vol II, No 1, pp 47–63

Ethnology and archæology; of ruins of New Mexico, Eocene plateau of northwestern W, 1875, pp 166–173
human remains of ruins of New Mexico, northwestern W, VII, pp 351–361
implements, iron, of Indians of southern California W, VII, pp 272–276
implements, stone, of southern California W, VII, pp 49–69
implements and weapons made of bone and wood, from southern California W, VII, pp 222–233
implements, pottery, etc., obtained in New Mexico and Arizona W, VII, pp 374–390
Indian languages, comparative vocabulary of Eth, I, pp 121–153, 249–285; W, VII, pp 424–485
of southern California, analytical report on idioms of ... W, 1876, pp 330–343
Indian tribes of Alaska Eth, I, pp 1–106
of California Eth, III
of northwest Eth, I, pp 1–106
of Washington, western, and Oregon, northwestern Eth, I, pp 157–241
Indians, houses and house life of Eth, IV
of Arizona and Nevada W, 1871, pp 27–29, 74–76
of Arizona, California, and Nevada H, Ann 10, pp 461–478
of California, southern, basket work, textile fabrics, etc., of W, VII, pp 239–250
beads of W, VII, pp 263–271
ornaments of W, VII, pp 251–262
of Nevada, southern and southeastern W, 1869, pp 35–37
of Nevada and Arizona W, 1871, pp 27–29, 74–76
of Nevada, California, and Arizona, observations on .. H, Ann 10, pp 461–478
of Washington, Skokomish Reservation, customs, language, etc., of .. H, Bull, vol III, No 1, pp 57–114
of western States and Territories W, I, pp 211–222
photographs of, catalogue of H, Miscl 5 (1st ed), pp 67–83; H, Miscl 9
Innuit, origin of Eth, I, pp 93–106
terms of relationship used by Eth, I, pp 117–119
iron implements of Indians of southern California W, VII, pp 272–276
kjökkenmöddings and graves of Oregon, coast of H, Bull, vol III, No 1, pp 27–35
of Santa Barbara islands and the adjacent mainland H, Bull, vol III, No 1, pp 37–56
Klamath Indians, ethnographic sketch, grammar, texts, dictionary of language, bibliography, etc., of Eth, II
lapidarian sculptures in the Old World and America, observations on cup-shaped and Eth, V
language, Dakota, dictionary of Eth, VII
language, Nez Percés, grammar of, notes on H, Bull, vol II, No 3, pp 271–277
languages, Indian, comparative vocabulary of Eth, I, pp 121–153, 249–285; W, VII, pp 424–485
languages, pueblo, of New Mexico W, 1875, pp 180–187
Mayas, graphic system and ancient records of Eth, V, pp xvii–xxxvii
mortars and pestles from graves in southern California W, VII, pp 70–92
mound builders, houses of Eth, IV, pp 198–221
mounds of Dakota H, Ann 6, pp 655–658
musical instruments made of bone, from southern California W, VIII, pp 234–238
Nez Percés language, grammar of, notes on H, Bull, vol II, No 3, pp 271–277
ornaments of Indians of southern California W, VII, pp 251–262

Ethnology and archæology; ornaments, bead, employed by ancient tribes of Utah and Arizona H, Bull, vol II, No 1, pp 67–69
pestles and mortars from graves in southern California W, VII, pp 70–92
pipes, stone, from graves of southern California W, VII, pp 125–134
pottery of Colorado, San Juan Valley, ancient tribes H, Ann 10, pp 403–408
of Colorado, southwestern H, Bull, vol III, No 1, pp 21–24
pottery, implements, etc., obtained in New Mexico and Arizona W, VII, pp 374–390
pueblo languages of New Mexico, report on W, 1875, pp 180–187
pueblo at Acoma, New Mexico W, VII, pp 325–326
pueblos and their inhabitants, notes on W, VII, pp 319–324
ruins, human remains found among, in southwestern Colorado and northern New Mexico H, Bull, vol II, No 1, pp 47–63
in Arizona, Chelly Canyon W, VII, pp 372–373; H, Ann 10, pp 420–425
San Juan River region H, Bull, vol II, No 1, pp 25–45
in Colorado, southwestern H, Ann 8, pp 367–381; H, Ann 10, pp 383–452; H, Bull, vol I, ser 2, No 1, pp 17–30; H, Bull, vol II, No 1, pp 3–24
in New Mexico W, VII, pp 337–345; W, 1875, pp 174–178
Chaco Canyon H, Ann 10, pp 431–449; W, VII, pp 366–369
Las Animas River W, VII, pp 347–350
Las Animas Valley and other places W, 1875, pp 178–180
in Utah and Arizona, San Juan River region H, Bull, vol II, No 1, pp 25–45
sculpture, cup-shaped and lapidarian, in the Old World and America Eth, V
shell heaps of Aleutian Islands, Alaska Eth, I, pp 41–91
skeletons and crania collected in 1872–1874, notes on W, VII, pp 391–397
skull from Chaco Canyon, New Mexico H, Ann 10, pp 453–457
skulls from Santa Barbara Islands W, VII, pp 277–292
skulls and skeletons collected in 1872–74, notes on W, VII, pp 391–397
soapstone pots, method of manufacture of W, VII, pp 117–121
steatite cooking pots, plates, and foods vessels from graves of southern California W, VII, pp 93–116
stone, miscellaneous objects made of, from graves of southern California. W, VII, pp 190–217
stone implements of southern California W, VII, pp 49–69
stone pipes from graves of southern California W, VII, pp 125–134
stone weapons, methods of making H, Bull, vol III, No 3, pp 547–549
stones, perforated, from graves of southern California W, VII, pp 135–189
trephining, prehistoric and cranial amulets Eth, V
Troano manuscript, study of Eth, V
Twana Indians, customs, language, etc., of H, Bull, vol III, No 1, pp 57–114
utensils and language of modern Utes H, Bull, vol II, No 1, pp 71–76
weapons, stone, methods of making H, Bull, vol III, No 3, pp 547–549
wood, articles and utensils of, from graves of southern California W, VII, pp 122–124
implements and weapons made of bone and W, VII, pp 222–233
Euphotide of Colorado, Mount Ouray H, Ann 10, p 209
Eureka district, Nevada, notes on W, 1871, p 37
Europe, springs, thermal, of H, Ann 12, II, pp 332–337
vertebrata, extinct, of North America and, relations of horizons of H, Bull, vol V, No 1, pp 33–54
Evaporation in Colorado, Los Pinos Agency W, 1878, p 106
Evarts, Mount, Wyoming, geology of H, Ann 12, II, pp 9–15

Explorations and surveys in western North America, 1500–1880, account of..W, I, pp 481–764
under Lieutenant Wheeler, sketch of.....W, I, pp 21–146
Fairplay, Colorado, meteorologic observations at.....H, Miscl 6, pp 35–39
Falconidæ, natural arrangement of, outlines of..H, Bull, vol I, ser 2, No 4, pp 225–231
studies of American.....H, Bull, vol II, No 2, pp 91–182
(See, also, Vertebrates.)
Fall Creek region, Idaho, geology of.....H, Ann 11, pp 364–371
Faulting in Yellowstone Park.....H, Ann 12, II, pp 5–9
Faulting and folding in Colorado, Elk Range.....H, Ann 8, pp 68–71
in southern Colorado and northern New Mexico.....W, III, Supp, pp 39–65
Faults in Utah, high plateaus.....HP, pp 25–47
Faults and folds of Colorado Plateau.....W, III, pp 289–297
Feather Creek, Wyoming, geology near.....H, Ann 11, pp 530–531
Feldspar, analysis of, from Bavaria.....W, 1875, p 111
analysis of, from Colorado, Pikes Peak.....W, 1875, p 111
from Nevada, Pine Nut Canyon.....K, II, p 702
thin section of, from Nevada, Havallah Range.....K, VI, pl 3
Felsite-porphyry of Fortieth Parallel region, microscopic petrography of.....K, VI, pp 71–80
Ferns of the Southwest.....W, VI, pp 299–340
(See, also, Plants.)
Finches, gray-crowned purple, monograph of...H, Bull, vol I, ser 2, No 2, pp 51–82
(See, also, Vertebrates.)
Firehole River, Wyoming, geyser basins of.....H, Ann 6, pp 141–158
Fish Creek Mountains, Nevada, geology of.....K, II, pp 660–666
granite of.....K, I, p 80
Fish Lake Plateau, Utah, geology of.....HP, pp 260–267
Fishes of California and Nevada, report on.....W, 1878, pp 187–205
of Dakota and Montana, report on.....H, Bull, vol IV, No 4, pp 777–779
of Nevada, Utah, California, Colorado, New Mexico, and Arizona.....W, V, pp 635–703
of North America, fresh waters of, catalogue of.....H, Bull, vol IV, No 2, pp 407–442
of Texas, Rio Grande at Brownsville, notes on a collection from.....H, Bull, vol IV, No 2, pp 397–406; H, Bull, vol IV, No 3, pp 663–667
(See, also, Fishes and reptiles; Vertebrates.)
Fishes and reptiles collected in Idaho, Wyoming, Montana, and Utah.....H, Ann 5, pp 467–476
report on.....H, Ann 4, pp 432–442
(See, also, Vertebrates.)
Fishes, fossil, of Carboniferous of Kansas, notice of some.....H, Mon I, pp 311–314
of Coal Measures, Upper, of Nebraska.....H, Uncl I, pp 239–245
of Cretaceous and Tertiary deposits west of Mississippi River.....H, Bull, vol IV, No 1, pp 67–77
of Green River shale of Wyoming.....H, Mon I, pp 194–197
of Tertiary shales of Green River, Wyoming.....H, Ann 4, pp 425–431
of South Park.....H, Bull, vol I, ser 2, No 1, pp 3–5
of Tertiaries, fresh-water, of the Rocky Mountains.....H, Bull, vol I, ser 1, No 2, pp 49–51
(See, also, Vertebrates, fossil.)
Fishes and reptiles, fossil, of Cretaceous of Interior region H, Mon I, pp 266–310
of the Cretaceous rocks of Kansas.....H, Ann 4, pp 385–425
(See, also, Vertebrates, fossil.)

Fissure of Comstock lode, Nevada.....K, III, pp 64-68
Flaming Gorge group, exposures of.....UM, p 51
Fletcher (R.), on prehistoric trephining and cranial amulets.....Eth, v
Flora. (See Plants.)
Flora, fossil. (See Plants, fossil.)
Florissant, Colorado, Tertiary lake basin at.....H, Ann 12, I, pp 271-293; H, Bull, vol VI, No 2, pp 279-300
Folding in Colorado, northwestern.....H, Ann 10, pp 48-51
Folding and faulting in southern Colorado and northern New Mexico.....W, III, Supp, pp 39-65
Folds in Arizona and New Mexico, Plateau region.....W, III, pp 556-567
Folds and faults of Colorado Plateau.....W, III, pp 289-297
Folds in Utah, Henry Mountains.....HM, pp 11-13
Fontenelle hogbacks, Wyoming, geology of.....H, Ann 11, pp 537-538
Food of birds of Nebraska, notes on.....H, Uncl 14, App, pp 13-62
Fort Bayard, New Mexico, astronomical work at.....W, 1879, pp 81-113
Fort Benton group of Black Hills.....BH, p 174
of Colorado, south-central, and New Mexico, north-central.....W, III, Supp, pp 96-97
Spanish Peaks region.....W, 1879, p 277
of Missouri country, upper.....H, Mon IX, pp xxviii-xxx
of Nebraska.....LOR, 1867, p 171; H, Ann 1, p 53
of New Mexico, north-central, and Colorado, south-central..W, III, Supp, pp 96-97
Fort Bliss, Texas, astronomical work at.....W, 1879, pp 47-81
Fort Bridger, Wyoming, geology between South Pass and.....H, Ann 4, pp 35-41
Fort Ellis, Montana, geology between Fort Hall, Idaho, and....H, Ann 5, pp 27-44
geology between Gardiner River and.....H, Ann 6, pp 108-125
Fort Fetterman, Wyoming, geology between Cheyenne and.....H, Ann 4, pp 11-24
geology between South Pass and.....H, Ann 4, pp 24-35
Fort Garland, Colorado, birds collected in vicinity of.....W, Uncl 4, pp 69-95
Fort Hall, Idaho, geology between Fort Ellis, Montana, and....H, Ann 5, pp 27-44
geology between Ogden, Utah, and..H, Ann 5, pp 13-26; H, Ann 6, pp 197-207
meteorological observations at.....H, Miscl 2, pp 4-46
Fort Hays division of Kansas..H, Ann 9, pp 289-290; H, Bull, vol II, No 3, pp 218-221
Fort Pierre group of Black Hills.....BH, pp 172-173
of Colorado, south-central, and New Mexico, north-central.....W, III, Supp, pp 99-101
Spanish Peaks region.....W, 1879, p 277
of Missouri country, upper.....H, Mon IX, pp xxxiii-xxxv
fossil vertebrates of.....H, Bull, vol III, No 3, pp 586-588
of Nebraska.....LOR, 1867, p 172; H, Ann 1, p 54
of New Mexico, north-central, and Colorado, south-central.....W, III, Supp, pp 99-101
Fort Sisseton, Dakota, birds of, notes on.....H, Bull, vol V, No 1, pp 71-103
mammals of.....H, Bull, vol IV, No 1, pp 201-218
Fort Union, New Mexico, astronomical determinations at.....W, II, pp 313-335
geology between Colorado City and.....H, Ann 3, pp 47-58
in vicinity of.....H, Ann 3, pp 58-61; H, Ann 1-3, pp 158-161
Fort Union group, extent and age of...H, Ann 7, pp 432-435; H, Ann 8, pp 141-143
fauna of.....H, Mon II, pp 25-30
invertebrate fossils of, list of.....H, Bull, vol III, No 3, p 612
of Missouri region, upper.....H, Mon IX, pp lv-lxi
vertebrata of.....H, Ann 7, pp 444-456
(See, also, Lignite formations.)

Forests in the Territories....H, Ann 5, pp 218–227
Forests and timber in western Territories....W, I, pp 179–181
Forest, fossil, of the volcanic Tertiary formations of the Yellowstone National Park....H, Bull, vol v, No 1, pp 125–132
(See, also, Plants, fossil.)
Fortieth Parallel region, birds of....K, IV, pp 303–643
botany of....K, V
geodetical and geographical methods used in survey of....K, I, pp 763–769
invertebrates, fossil, of....K, IV, pp 1–302
lakes, glacial, of....K, I, pp 488–529
mining districts and mining industry in....K, III
microscopical petrography of....K, VI
orography of....K, I, pp 727–761
Quaternary rocks of....K, I, pp 459–529
volcanic rocks of....K, I, pp 545–725
Fortieth Parallel survey, area explored by....K, I, pp 1–14
Fossil forest. (See Forest, fossil.)
Fossils. (See Invertebrates, fossil; Vertebrates, fossil; Plants, fossil.)
Fountain Head Hills, Nevada, geology of....K, II, pp 520–523
Fox Hills fossils, geographic distribution of, table showing....H, Ann 11, pp 252–253
of Colorado, Bear Creek Valley and Greeley, list of....H, Ann 11, pp 265–266
east of Rocky Mountains....H, Ann 11, pp 179–190
Fox Hills group of Black Hills....BH, pp 171–172
of Colorado, northwestern....H, Ann 10, pp 31–32
San Juan drainage basin....H, Ann 9, pp 187–189
White River district....H, Ann 10, pp 76–77, 109
of Fortieth Parallel area....K, I, pp 320–330
of Missouri country, upper....H, Mon IX, pp xxxv–xxxviii
of Utah, White River district....H, Ann 10, pp 76–77, 109
of Wyoming, Rawlings Peak, vicinity of....H, Ann 11, pp 123–124
Sweetwater Valley....H, Ann 11, p 109
Wind River Range, vicinity of....H, Ann 11, pp 85–87
France, primitive lapidarian sculptures in....Eth, v, pp 18–20
Franklin Buttes, Nevada, geology of....K, II, pp 491–493
granite of....K, I, p 62
Frazer (P.), mines and minerals of Colorado....H, Ann 3, pp 103–130; H, Ann 1–3, pp 201–228
Frazier Basin, Colorado, geology of....H, Ann 7, pp 161–162
French Creek district, South Dakota, mineral resources of....BH, pp 226–238
Fresno, Cal., astronomical work at....W, 1879, pp 41–47
Front Range. (See Colorado Range.)
Frost (C. C.) Hepaticæ of Great Basin....K, V, p 411
Fur-bearing animals; a monograph of North American Mustelidæ....H, Miscl, 8
(See, also, Vertebrates.)
Furuhelm (J.), notes on the natives of Alaska....Eth, I, pp 111–116
Gabbro, analysis of, from Wyoming, East Iron Mountain....K, I, p 110
analysis of, from Wyoming, Iron Mountain....K, VI, p 109
from Wyoming, Laramie Hills....K, II, p 14
of Wyoming, Iron Mountain, microscopic petrography of....K, VI, pp 107–109
Galisteo Creek region, New Mexico, geology of....W, III, Supp, pp 328–346
Galisteo group of New Mexico, Galisteo Creek....W, III, Supp, pp 159–162
Gallatin River, Montana, geology near....H, Ann 5, pp 44–49
Gallatin Valley and canyon, Montana, geology of....H, Ann 6, pp 26–28, 76–81
Gallinas Creek, New Mexico, geology near....H, Ann 3, pp 61–64; H, Ann 1–3, pp 161–164

Gallfly, pitch pine, description of.....H, Ann 10, pp 527–528
(See, also, Invertebrates.)
Galls collected in Colorado, notes on.....H, Ann 7, p 567
Gannett (H.), additional lists of elevations.....H, Bull, vol v, No 3, pp 441–470
geographical field work of the Yellowstone Park division.....H, Ann 12, II, pp 455–490
lists of elevations in that portion of the United States west of the Mississippi River.....H, Miscl 1
meteorological observations during the year 1872, in Utah, Idaho, and Montana.....H, Miscl 2
report on astronomy and hypsometry for 1872.....H, Ann 6, pp 796–807
notes in relation to contour map of the United States.....H, Bull, vol II, No 3, pp 223–226
report on arable and pasture lands of Colorado.....H, Ann 10, pp 311–357
topographic report on Grand River district.....H, Ann 9, pp 335–350
work in charge of, report on.....H, Ann 7, pp 670–681; H, Ann 8, pp 413–433; H, Ann 11, pp 675–710
Gardiners River, Wyoming, geology between Fort Ellis, Montana, and...H, Ann 6, pp 108–125
geology of upper.....H, Ann 12, II, pp 27–32
hot springs near.....H, Ann 5, pp 64–75
Gardner (J. T.), elevations of certain datum points on the Great Lakes and rivers and in the Rocky Mountains.....H, Ann 7, pp 629–659
geodetical and geographical methods used on the Geological Explorations of the Fortieth Parallel.....K, I, pp 763–769
notes on the Rocky Mountain ranges in Colorado Territory.....H, Bull, vol I, ser 1, No 2, pp 72–77
sketch of methods of survey in the geographical department.....H, Ann 7, pp 627–628
Garnets, analyses of, from New Mexico, Nacimiento Desert and from Bohemia.....W, 1875, p 105
Gatschet (A. S.), analytical report on 11 idioms spoken in southern California, Nevada, and on the lower Colorado River, their phonetic elements, grammatical structure, and mutual affinities.....W, 1876, pp 330–343
classification in seven linguistic stocks of western Indian languages contained in 40 vocabularies.....W, VII, pp 403–485
Klamath Indians of southwestern Oregon.....Eth, II
report on the pueblo languages of New Mexico and of the Moquis in Arizona, their affinity to each other, and to the languages of the other Indian tribes.....W, 1875, pp 180–187
Gaylussite, analysis of, from Nevada, Soda Lakes.....K, II, p 749
Gentile Valley, Idaho, geology of.....H, Ann 11, pp 600–602
Geodetical and geographical methods used in survey of Fortieth Parallel region.....K, I, pp 763–769
Geographic positions in Black Hills.....BH, pp 551–553
lists of.....W, 1876, pp 6–35; W, 1877, pp 1214–1217; W, 1878, pp 6–14; W, Uncl 16, pp 10–12
Geographical and geodetical methods used in survey of Fortieth Parallel region.....K, I, pp 763–769
Geometrid moths or Phalenidæ of the United States, monograph on.....H, Mon x
(See, also, Invertebrates.)
Geomyidæ, cranial and dental characters of....H, Bull, vol I, ser 2, No 2, pp 83–90
(See, also, Vertebrates.)

Geomys, abstract of study of Thomomys and.....ECR, pp 217–279
(See, also, Vertebrates.)
Geomys tuza, notes on.....ECR, pp 282–285
(See, also, Vertebrates.)
Georgetown, Colorado, astronomical determinations at.....W, II, pp 211–238
mines at.....H, Ann 3, pp 111–114
Georgetown district, Colorado, mines of.....H, Ann 7, pp 293–300
silver mining in.....K, III, pp 589–605
Germany, primitive lapidarian sculptures in.....Eth, V, pp 22–25
Geyserite, analysis of, from Iceland.....H, Ann 5, p 187; H, Ann 6, p 158
analysis of, from New Zealand.....H, Ann 5, p 188; H, Ann 6, p 158
from Yellowstone Park.....H, Ann 6, pp 145, 146, 153, 154, 156, 157, 158
from various localities.....H, Ann 12, II, pp 411–413
Geysers, definition of, theories concerning, influences modifying, etc....H, Ann 12, II, pp 416–454
of Yellowstone Park.....H, Ann 5, pp 104–126, 182–188; H, Ann 6, pp 138–140, 144–148, 234–242, 244–247
Geysers and thermal springs of various parts of the world..H, Ann 12, II, pp 304–353
Gibbs (G.), dictionary of the Niskwalli.....Eth, I, pp 285–361
tribes of western Washington and northwestern Oregon.....Eth, I, pp 157–241
Gibbs (M.), annotated list of the birds of Michigan.....H, Bull, vol V, No 3, pp 481–497
Gila River, Arizona, geology between St. George, Utah, and.....W, III, pp 189–225
Gila Valley, Arizona, climate of.....W, III, pp 598–601
geology between Camp Apache and.....W, III, pp 218–225
Gilbert (G. K.), geology of the Henry Mountains, Utah.....HM
irrigable lands of Salt Lake drainage system.....AL, pp 113–127
report on the geology of portions of Nevada, Utah, California, and Arizona, examined in 1871 and 1872.....W, III, pp 17–187
report on the geology of portions of New Mexico and Arizona..W, III, pp 503–567
water supply in Utah.....AL, pp 57–80
work in charge of, report on.....W, 1871, pp 92–96; W, 1872, pp 48–52
Gill (T.), synopsis of insectivorous mammals...H, Bull, vol I, ser 2, No 2, pp 91–120
Gill (T.) and Coues (E.), material for a bibliography of North American mammals, H, Mon XI, pp 951–1081
Gilpin County, Colorado, gold mining in.....K, III, pp 493–588
Gissler (C. F.), miscellaneous notes on the reproductive habits of Branchiopodidæ.....H, Ann 12, I, pp 420–452
Glacial action in Colorado, central.....W, III, pp 426–453
Glacial epoch in Basin Range.....W, III, pp 86–104
Glacial phenomena of Plateau region.....W, III, pp 300–301
Glacial lakes. (See Lakes, Glacial.)
Glaciation in Colorado, Arkansas Valley...H, Ann 7, pp 51–57; H, Ann 8, pp 47–53
in New Mexico, Culebra and Taos ranges.....W, III, Supp, pp 177–178
in Yellowstone Park.....H, Ann 12, II, pp 52–57
Glaciers, ancient, of Colorado, southern.....H, Ann 9, pp 216–226
of Fortieth Parallel region.....K, I, pp 467–488
Glauconite, analysis of, from Black Hills, Canada, and New Jersey.....BH, p 96
Gneiss, analysis of, from Colorado, Park Range.....K, I, p 110
analysis of, from Utah, Ogden Canyon.....K, II, p 398
from Utah, Ogden Point.....K, VI, p 25
Wasatch Mountains.....K, I, p 110
from Wyoming, Elk Mountain.....K, I, p 110
Gold in Black Hills.....BH, pp 231–238, 241–251

Gold in New Mexico, Placer and Cimarron mountains W, III, Supp, pp 398–402
in Wyoming, Sweetwater district.....H, Ann 11, pp 142–148
Gold mining in Colorado, Gilpin County.....K, III, pp 493–588
Gold Mountain district, Nevada, notes on W, 1871, p 47
Gold ores, treatment of, in Colorado.....K, III, pp 547–588
Gold and silver mines of Colorado H, Ann 3, pp 87–89; H, Ann 1–3, pp 187–189
Gold Hill mining region, Colorado, geology of H, Ann 7, pp 685–687
Golden, Colorado, geology near.....H, Ann 3, pp 33–35; H, Ann 1–3, pp 133–135
Goniatite, fossil, from Kansas, eastern, notice of....H, Bull, vol I, ser 2, No 6, p 445
(See, also, Invertebrates, fossil.)
Goode (G. B.), notes on the salamander (Geomys tuza) of Florida..ECR, pp 282–285
Goose Creek Hills, Nevada, geology of.....K, II, pp 515–517
porphyry in K, I, pp 55–56
Gosiute Lake (Tertiary), extent of K, I, pp 446–447
Gosiute Range, Nevada, geology of K, II, pp 502–505
granite of.....K, I, p 57
Grand Canyon. (See Colorado River.)
Grand Canyon group, exposures of.....UM, p 61
Grand River district, Colorado-Utah, geology of.....H, Ann 9, pp 31–101;
H, Ann 10, pp 163–185
topographical report on.....H, Ann 9, pp 337–350
Grand River drainage basin, Colorado, cultivable areas in....H, Ann 10, pp 332–337
Grand River Valley, Colorado, geology of..H, Ann 7, pp 158–170, 177–178; H, Ann 8,
pp 85–93, 107, 111, 113, 116, 120, 123, 125–126, 130, 135, 172–174
Granite, analysis of, from California, Yosemite Valley.....K, I, p 110
analysis of, from Colorado, Longs Peak.....K, I, p. 110; K, II, p 23
from Nevada, Agate Pass region.....K, II, p 577
Cortez Mountains K, I, p 110
Egans Canyon.....K, I, p 110
Egan Range.....K, II, p 489
Granite Creek station.....K, II, p 798
west of K, I, p 110
Granite Peak K, I, p 110; K, II, p 779
Nannies Peak.....K, I, p 110; K, II, p 603
Shoshone Range K, I, p 110
Wachoe Mountains K, I, p 110; K, II, p 477
West Humboldt Range K, II, p 715
Wrights Canyon, vicinity of K, I, p 110
from Utah, Cottonwood Canyon K, I, p 110; K, II, p 356
from Wyoming, Black Hills.....K, I, p 110
Granite Canyon.....K, I, p 110
Iron Mountain.....K, I, p 110; K, II, p 13
Laramie Hills K, II, p 10
genesis of crystalline schists and.....K, I, pp 112–121
of Black Hills BH, pp 65–80
of Colorado, occurrence and character of.....H, Ann 10, pp 210–211
of Fortieth Parallel region, character and distribution of.....K, I, pp 107–111
microscopical petrography of K, VI, pp 39–59
of Nevada, Washoe district.....K, III, pp 19–21
thin section of, from Nevada, Havallah Range.....K, VI, pl 2
Granite Mountain, Nevada, geology of vicinity of.....K, II, pp 689–712
Granite Mountain district, California, notes on.....W, 1871, p 51
Granite Range, Nevada, geology of K, II, pp 797–800
granite of.....K, I, pp 93–94

Granite-porphyry of Fortieth Parallel region, microscopical petrography of...K, VI, pp 60-70
Graphite, analysis of, from Wyoming, Laramie Hills.....K, I, p 110; K, II, p 17
Grass, analysis of, from New Mexico, Jemez Mountains, Abiquiu Mountains, and Las Vegas.....W, 1875, p 138
Grasses, analysis of, from New Mexico, Jemez Mountains.....W, VI, p 32
Grass Valley, Utah, geology of HP, pp 248-251
Gravel Creek, Idaho, geology near H, Ann 11, pp 342-344
Graves and kjökkenmöddings of Oregon, coast of...H, Bull, vol III, No 1, pp 27-35
of Santa Barbara Islands and the adjacent mainland H, Bull, vol III, No 1, pp 37-56
(See, also, Ethnology and archæology.)
Gray (A.), botany of Black Hills.....BH, pp 529-537
Eriogoneæ of Great Basin K, V, pp 298-313
Polemoniaceæ of Great Basin.....K, V, pp 259-272
Gray (A.) and Hooker (J. D.), the vegetation of the Rocky Mountain region and a comparison with that of other parts of the world.....H, Bull, vol VI, No 1, pp 1-77
Great Basin, birds of K, IV, pp 316-328, 377-386
botany of.....K, V
geographical notes on K, V, pp xiii-xvi
geologic features of K, III, pp 1-4
meteorology of, notes on.....K, V, pp xvii-xxii
mountain ranges of.....W, III, pp 21-42
orographic structure of.....UM, pp 23-25
Paleozoic rocks of.....K, I, pp 181-226
physical features of K, IV, pp 313-316
topographic features and agricultural prospects in H, Ann 5, pp 227-237
water supply of.....W, III, pp 105-117
(See, also, Nevada; Utah; Fortieth Parallel region; names of mountain ranges, etc.)
Great Plains, cultivation experiments on, along the line of the Kansas Pacific Railway.....H, Ann 5, pp 274-279
physical aspects of.....K, II, pp 2-4
tree growth on.....H, Ann 4, pp 456-457
Great Salt Lake, current, evaporation, etc., of.....W, 1879, pp 228-231
description of.....H, Ann 5, pp 233-235
geology of vicinity of K, II, pp 431-442
north of K, II, pp 420-430
south of K, II, pp 443-461
insects inhabiting H, Ann 6, pp 743-746
level of, fluctuation in K, I, p 497; AL, pp 58-77
outlet of, discussion of supposed ancient ..H, Bull, vol I, ser 2, No 5, pp 413-414
Great Salt Lake drainage system, Utah, irrigable lands of.....AL, pp 113-127
Great Salt Lake Valley, Utah, agriculture in.....H, Ann 4, pp 237-241
geology from Bear River to H, Ann 4, pp 147-161
Green Mountain district, California, notes on.....W, 1876, pp 52-53
Green Mountain district, Nevada, notes on W, 1871, p 47
Green River, Wyoming, astronomical determinations at.....W, II, pp 129-154
Green River Basin, Wyoming, geology of.....H, Ann 11, pp 523-542; H, Ann 12, I, pp 202-207
physical features of.....K, II, pp 191-194
topographic features of H, Ann 11, pp 689-693
Green River coal basin, geology of.....K, III, pp 451-473

Green River district, Wyoming, agriculture in H, Ann 4, pp 233–237
geology of H, Ann 11, pp 509–646
Green River group, distribution of H, Mon VIII, pp 127–134
exposures of UM, p 45
flora of H, Mon VIII, pp 127–217
invertebrate fossils of, list of H, Bull, vol III, No 3, p 611
occurrences and age of H, Ann 8, pp 147–148, 156–158
of Colorado, Grand River district H, Ann 10, pp 184–185
northwestern H, Ann 10, pp 35–37
White River district H, Ann 10, pp 82–86, 111
of Fortieth Parallel region K, I, pp 377–394
of Utah, Grand River district H, Ann 10, pp 184–185
Uinta Mountains UM, pp 166–167
White River district H, Ann 10, pp 82–86, 111
of Wyoming H, Ann 11, pp 130–132
Green River and vicinity K, II, pp 240–244
Green River region H, Ann 11, pp 637–639
(See, also, Green River shales.)
Green River region, paleontological characteristics of Mesozoic and Cenozoic groups of H, Bull, vol III, No 3, pp 625–629
Green River shales, fishes of H, Ann 4, pp 425–431; H, Mon I, pp 194–197
ichthyological fauna of, contribution to knowledge of H, Bull, vol III, No 4, pp 806–819
insects of H, Bull, vol IV, No 4, pp 747–776
Greensand. (See Glauconite.)
Griffin (E.), report of W, 1879, pp 223–228
Groom district, Nevada, notes on W, 1871, pp 44–45
Gros Ventre Basin, Wyoming, geology of H, Ann 12, I, pp 219–227
Gros Ventre Range, Wyoming, geology of H, Ann 11, pp 448–456; H, Ann 12, I, pp 208–218
Grote (A. R.), descriptions of Noctuidæ, chiefly from California H, Bull, vol IV, No 1, pp 169–187
new moths, principally collected by Mr. Roland Thaxter in Maine, with notes on noxious species and remarks on classification H, Bull, vol VI, No 3, pp 579–591
new moths, with partial catalogue of Noctuæ H, Bull, vol VI, No 3, pp 563–578
North American moths with a preliminary catalogue of the species of Hadena and Polia H, Bull, vol VI, No 2, pp 257–277
notes on a collection of noctuid moths made in Colorado in 1875 by Dr. A. S. Packard, jr H, Bull, vol III, No 1, pp 115–120
on Lithophane and new Noctuidæ H, Bull, vol V, No 2, pp 201–208
preliminary list of the North American species of Agrostis, with descriptions H, Bull, vol VI, No 1, pp 149–164
preliminary studies on the North American Pyralidæ H, Bull, vol IV, No 3, pp 669–705
Guadeloupe Island, ornithology of H, Bull, vol II, No 2, pp 183–195
Gunnison, Utah, astronomical determinations at W, II, pp 99–125
Gunnison River, Colo., geology of vicinity of H, Ann 8, pp 94–105, 107–109, 123, 126–128, 131–137; H, Ann 9, pp 43–46
Gypsum, analysis of, from Wyoming, Red Valley K, I, p 253; K, II, p 37
Hagen (H. A.), Odonata from the Yellowstone H, Ann 6, pp 727–729
report on the pseudo-Neuroptera and Neuroptera collected by Lieut. W. L. Carpenter in 1873, in Colorado H, Ann 7, pp 571–606

Hagen (H. A.), report upon the collections of Neuroptera and pseudo-Neuroptera made in portions of Colorado, New Mexico, and Arizona, 1872–1874 W, v, pp 909–922
Hague (A.), chemistry of the Washoe process K, III, pp 273–293
geology of the White Pine district K, III, pp 409–422
Hague (A.) and Emmons (S. F.), descriptive geology of Fortieth Parallel region K, II
Hague (J. D.), mining industry in Fortieth Parallel region K, III
Ha-ilt-zukh language, vocabulary of Eth, I, pp 143–153
(See, also, Ethnology and archæology.)
Haldeman (S. S.), beads of Indians of southern California W, VII, pp 263–271
Hall (J.) and Whitfield (R. P.), paleontology of Fortieth Parallel region K, IV, pp 199–302
Hams Fork, Wyoming, geology near H, Ann 11, pp 532, 534–535
Hardscrabble district, Colorado, notes on W, 1876, pp 48–49
Haskill (—.), short descriptions of some of the valleys of Nevada H, Ann 5, pp 271–273
Havallah Range, Nevada, geology of K, II, pp 673–688
granite of K, I, pp 80–83
Triassic rocks of K, I, pp 280–281
Hayden (F. V.), notes descriptive of some geological sections of the country about the headwaters of the Missouri and Yellowstone rivers H, Bull, vol II, No 3, pp 197–209
notes on some artesian borings along the line of the Union Pacific Railroad in Wyoming Territory H, Bull, vol III, No 1, pp 181–185
notes on some peculiar forms of erosion in eastern Colorado H, Bull, vol I, ser 2, No 3, pp 210–211
notes on the Lignitic group of eastern Colorado and portions of Wyoming H, Bull, vol I, ser 2, No 5, pp 401–411
notes on the surface features of the Colorado or Front Range of the Rocky Mountains H, Bull, vol 1, ser 2, No 4, pp 216–220
preliminary report for 1877 H, Uncl 13
preliminary report for 1878 H Uncl 16
remarks on the geological formations along the eastern margins of the Rocky Mountains H, Uncl 16, pp 13–16
report on geology of Nebraska H, Uncl 1, pp 7–79
some remarks in regard to the period of elevation of those ranges of the Rocky Mountains near the sources of the Missouri River and its tributaries H, Uncl 16, pp 9–13
sketch of the geology about the headwaters of the Missouri and Yellowstone rivers H, Uncl 16, pp 21–29
the Primordial sandstone of the Rocky Mountains in the Northwestern Territories of the United States H, Uncl 16, pp 16–21
the so-called Two Ocean Pass H, Bull, vol v, No 2, pp 223–225
report on explorations in Colorado H, Ann 8, pp 1–71
work in charge of, report on LOR, 1867, pp 128–181; LOR, 1868, pp 220–255; H, Ann 1, pp 5–64; H, Ann 2, pp 67–107; H, Ann 4, pp 3–188; H, Ann 5, pp 3–204; H, Ann 6, pp 11–313; H, Ann 7, pp 17–82; H, Ann 9, pp 1–28; H, Ann 10, pp xiii–xxix; H, Ann 11, pp vii–xxviii; H, Ann 12, I, pp xiii–xviii; II, pp xvii–xxiv
Helena, Montana, geology between Three Forks and H, Ann 6, pp 81–82
Hemiptera of Arizona, Colorado, New Mexico, and California W, 1877, pp 1322–1334

Hemiptera of Arizona and adjacent States.....W, v, pp 829–841
of California and adjacent States.....W, v, pp 829–841
of California, Colorado, and Arizona.....W, 1877, pp 1322–1334
of Colorado and adjacent States.....W, v, pp 829–841
of Colorado, eastern, and New Mexico, northeastern, list of.....H, Ann 4, pp 471–472
of Colorado, New Mexico, Arizona, and California.....W, 1877, pp 1322–1334
of Dakota and Montana.....H, Bull, vol IV, No 2, pp 503–512
of Nevada, Utah, California, Colorado, New Mexico, and Arizona..... W, v, pp 829–841
of Montana and Dakota.....H, Bull, vol IV, No 2, pp 503–512
of New Mexico and adjacent States.....W, v, pp 829–841
of New Mexico, Colorado, Arizona, and California.....W, 1877, pp 1322–1334
of New Mexico, northeastern, and Colorado, eastern, list of.....H, Ann 4, pp 471–472
of Utah and adjacent States.....W, v, pp 829–841
of western States.....H, Ann 5, pp 392–423
list of.....H, Bull, vol I, ser 2, No 5, pp 269–361
(See, also, Invertebrates.)
Henry Mountains, Utah, geology of..... HM
Henryite, analyses of, from Colorado, Gold Hill, Red Cloud mine.....H, Ann 7, p 353; H, Ann 10, p 144
Henrys Fork, Wyoming, geology near.....H, Ann 4, pp 56–63
Henrys Fork Basin, Wyoming, geology of.....K, II, pp 261–269
Henrys Fork group, exposures of.....UM, p 50
of Uinta Mountains.....UM, pp 153–154
Henshaw (H. W.), annotated list of the birds of Arizona.....W, 1875, pp 153–166
annotated list of the birds of Utah.....W, Uncl 4, pp 39–54; W, Uncl 7
cliff house and cave on Diamond Creek, New Mexico.....W, VII, pp 370–371
introductory notes to the account of the voyage of Cabrillo...W, VII, pp 293–298
list of birds collected in Colorado, New Mexico, and Arizona.....W, Uncl 4, pp 55–148
notes on ornithology of portions of New Mexico and Arizona.....W, 1875, pp 149–150
notes on the mammals taken and observed in California in 1875.....W, 1876, pp 305–312
ornithological report from observations and collections made in portions of California, Nevada, and Oregon.....W, 1879, pp 282–335
preliminary report on the ornithology of portions of California and Nevada.....W, 1878, pp 185–186
report on the ornithology of portions of Nevada and California.....W, 1877, pp 1303–1322
report on the ornithology of the portions of California visited in 1875..W, 1876, pp 224–278
report upon the ornithological collections made in portions of Nevada, Utah, California, Colorado, New Mexico, and Arizona, 1871–1874.....W, v, pp 131–507
Henshaw (H. W.) and Jordan (D. S.), report upon fishes collected in California and Nevada.....W, 1878, pp 187–205
Henshaw (H. W.) and Yarrow (H. C.), report upon and list of birds collected in Utah and Nevada in 1872.....W, Uncl 4, pp 5–33
report upon the reptiles and batrachians collected in 1875–1877 in California, Arizona, and Nevada.....W, 1878, pp 206–226

Hering (R.), means of access to the Yellowstone National Park by railroads..H, Ann 6, pp 92–95
Herodiones, studies of the American.....H, Bull, vol IV, No 1, pp 219–251
(See, also, Vertebrates.)
Herpetology of Dakota and Montana.....H, Bull, vol IV, No 1, pp 259–291
(See, also, Vertebrates.)
Hessite, analysis of, from Colorado, Gold Hill, Red Cloud mine H, Ann 10, pp 144, 145
Hetch Hetchy Valley, California, description of.....W, 1879, pp 259–260
Hidatsa Indians, ethnography and philology of.....H, Miscl 7
(See, also, Ethnology and archæology.)
Highams Peak Ridge, Idaho, geology near.....H, Ann 11, pp 330, 335–337
Hilgard, Mount, Utah, geology of.....HP, pp 269–271
Hillers, Mount, Utah, geology of.....HM, pp 30–35
Hoback Canyon Ridge, Wyoming, geology of.....H, Ann 12, I, pp 178–187
Hodge (J. T.), on the Tertiary coals of the West.....H, Ann 4, pp 318–329
Hoffman (W. J.), annotated list of the birds of Nevada.....H, Bull, vol VI, No 2, pp 203–256
miscellaneous ethnographic observations on Indians inhabiting Nevada, California, and Arizona.....H, Ann 10, pp 459–478
on the mineralogy of Nevada.....H, Bull, vol IV, No 3, pp 731–745
report on the Chaco cranium.....H, Ann 10, pp 451–457
Holcomb Valley mining district, California, notes on.....W, 1879, p 190
Holmes (W. H.), geological report on San Juan district, Colorado H, Ann 9, pp 237–276
fossil forests of the volcanic Tertiary formations of the Yellowstone National Park H, Bull, vol V, No 1, pp 125–132
notice of the ancient ruins of southwestern Colorado examined during the summer of 1875.....H, Bull, vol II, No 1, pp 3–24
report on ancient ruins of southwestern Colorado, examined during the summers of 1875 and 1876 H, Ann 10, pp 383–408
report on geology of northwestern portion of the Elk Range..H, Ann 8, pp 59–71
report on geology of the Sierra Abajo and West San Miguel Mountains..H, Ann 10, pp 187–195
report on the geology of Yellowstone National Park.....H, Ann 12, II, pp 1–64
Holmes, Mount, Utah, geology of HM, pp 27–30
Hoofs of Virginian deer, consolidation of H, Bull, vol IV, No 1, pp 293–294
(See, also, Vertebrates.)
Hooker (J. D.) and Gray (A.), the vegetation of the Rocky Mountain region, and a comparison with that of other parts of the world.....H, Bull, vol VI, No 1, pp 1–77
Horn (G. H.), Coleoptera [collected in Wyoming and Idaho in 1872, report on] H, Ann 6, p 717
Coleoptera, list of H, Ann 5, pp 382–392
list of Coleoptera collected by C. Thomas in eastern Colorado and northeastern New Mexico during the survey of 1869 H, Ann 4, pp 469–470
Hornblende, thin section of, from diorite of Nevada, Winnemucca Peak..K, VI, pl 3
thin section of, from granite-porphyry of Utah, Bingham Canyon, vicinity of K, VI, pl 3
from hornblende-andesite of Nevada, Augusta Canyon.....K, VI, pl 5
from hornblende-porphyry of Nevada, Augusta Mountains,.....K, VI, pl 4
Hornblende-andesite of Nevada, microscopic petrography of K, VI, pp 122–133
of Nevada Plateau.....K, I, pp 562–567
thin section of, from Nevada, Cortez Range K, VI, pl 5

Hornblende-porphyry of Nevada, Augusta Mountains, microscopic petrography of....K, VI, pp 94–96
Hornblende rock, thin section of, from Nevada, Havallah Range....K, VI, pl 4
Horse Creek, Wyoming, geology near....H, Ann 11, pp 527–528
Horses of Nevada, Comstock lode....K, III, pp 68–71
Houses and house life of the American aborigines....Eth, IV
(See, also, Ethnology and archæology.)
Howell (E. E.), report on the geology of portions of Utah, Nevada, Arizona, and New Mexico....W, III, pp 227–301
Hoxie (R. L.), report of....W, 1874, pp 5–7
Hoxie (R. L.) and Marshall (W. L.), meteorological observations, instructions for taking....W, Uncl 10; W, Uncl 12
Hualapais district, Arizona, notes on....W, 1871, pp 53–54; W, 1876, pp 55–56
Hughes, Colorado, astronomical determinations at....W, II, pp 239–263
Human remains of Colorado, southwestern, and New Mexico, northern, ancient ruins of....H, Bull, vol II, No 1, pp 47–63
of New Mexico, Eocene plateau of northwestern....W, 1875, pp 166–173
of northwestern....W, VII, pp 351–361
(See, also, Ethnology and archæology.)
Humboldt group of Fortieth Parallel region....K, I, pp 434–443
Humboldt Range, Nevada, Archean rocks of....K, I, pp 62–70
glaciers, extinct, of....K, I, pp 475–476
Humboldt River, Nevada, region north of, geology of....K, II, pp 590–617
Humboldt Valley, Nevada, geology of....K, II, pp 740–744
Hyaline-rhyolite of Nevada and Utah, microscopic petrography of....K, VI, pp 206–215
Hydrographic surveys, organization, cost, etc., of....W, I, pp 468–479
Hymenoptera collected in Kansas, northwestern....H, Bull, vol V, No 3, pp 349–370
collected in Nevada, Utah, Colorado, New Mexico, and Arizona, portions of....W, V, pp 705–736
(See, also, Invertebrates.)
Hypsometry, barometric, results of, 1871–75....W, II, pp 493–566
Hypsometry and meteorology, methods of....W, 1875, pp 47–54
Ibenpah Mountains, Utah, geology of....K, II, pp 472–476
Iceland, springs, thermal, and geysers of....H, Ann 12, II, pp 304–312
Ichthyological fauna of the Green River shales, contributions to knowledge of....H, Bull, vol III, No 4, pp 806–819
(See, also, Invertebrates; Invertebrates, fossil.)
Idaho, agriculture in eastern....H, Ann 5, pp 244–248
Aspen Ridge, geology of....H, Ann 11, pp 558–559
Bannock Range, geology of....H, Ann 11, pp 570–572
Bear Lake Plateau, geology of....H, Ann 11, pp 582–587
Bear Lake Valley, geology of....H, Ann 11, pp 587–589
Bear River, geology near....H, Ann 5, pp 150–156
Bear River Basin, topography of....H, Ann 11, pp 697–702
Bear River Range, geology of....H, Ann 11, pp 598–600
Bear River region, geology of....H, Ann 11, pp 573–603
birds collected in Wyoming, Utah, and, in 1872....H, Ann 6, pp 670–715
Blackfoot Basin, geology of....H, Ann 11, pp 556–563
topography of....H, Ann 11, p 695
Blackfoot Range, geology near....H, Ann 11, pp 338–339
Cache Valley, geology of....H, Ann 11, pp 603–606
Caribou Range, geology of....H, Ann 11, pp 360–405
elevations in....H, Bull, vol V, No 3, p 457; H, Miscl 1 (3d ed), p 16; H Miscl 1 (4th ed), p 68
explorations in Wyoming and....H, Ann 11

Idaho, explorations in parts of Montana, Wyoming, Utah, and, for year 1872 H, Ann 6
Fall Creek region, geology of H, Ann 11, pp 364–371
Fort Hall, geology between Fort Ellis, Montana and H, Ann 5, pp 27–44
geology between Ogden, Utah, and H, Ann 5, pp 13–26; H, Ann 6, pp 197–207
meteorological observations at H, Miscl 2, pp 4–46
fossils of Juratrias of southeastern H, Bull, vol v, No 1, pp 105–117
of Triassic of southeastern H, Ann 12, pp 105–118
Gentile Valley, geology of H, Ann 11, pp 600–602
Gravel Creek, geology near H, Ann 11, pp 342–344
Green River district, geology of H, Ann 11, pp 509–646
Highams Peak Ridge, geology near H, Ann 11, pp 330, 335–337
Iowa district, notes on W, 1878, p 88
John Gray Lake, geology near H, Ann 11, pp 357–358
Juratrias section of western Wyoming and southeastern H, Bull, vol v, No 1, pp 119–123
Lincoln Valley, geology of H, Ann 11, pp 330–335
locusts in H, Uncl 14, pp 96–97, 158
McCoy Creek, geology near H, Ann 11, pp 391–402
Malade Range and Valley, geology of H, Ann 11, pp 606–609
mammals collected in Wyoming, Utah and, in 1872 H, Ann 6, pp 661–669
Marsh Creek, geology near H, Ann 11, pp 565–567
meteorological observations in Utah, Montana and, in 1872 H, Miscl 2
Pierres Hole, geology at and near H, Ann 11, pp 438–441
Pierres Mountains, geology of H, Ann 11, pp 425–432
plants collected in Montana, Utah, Wyoming and H, Ann 6, pp 747–792
Portneuf River, geology near H, Ann 11, pp 563–567
geology of H, Ann 11, pp 328, 567–569
Preuss Range, geology of H, Ann 11, pp 589–590
Putnam, Mount, geology near H, Ann 11, p 328
Ross Fork, geology along H, Ann 11, pp 328–329
Snake River, course and character of H, Ann 6, pp 267–270
Snake River Range, geology of H, Ann 11, pp 424–425
Snake River Valley, geology of lower H, Ann 11, pp 405–410
resources of H, Ann 6, pp 86–91
Soda Springs, geology near H, Ann 11, pp 590–596
springs in Bear River region H, Ann 5, pp 152–154
Thomas Fork, geology near H, Ann 11, pp 581–582
Three Pine Canyon, geology near H, Ann 11, p 339
Virginia City, geology near H, Ann 5, pp 171–172
Willow Creek Basin, geology in H, Ann 11, pp 349–351
Willow Creek ridges, geology of H, Ann 11, pp 351–360
Igneous rocks of Colorado, central W, III, pp 411–425
of Colorado, distribution, character, origin, etc., of H, Ann 10, pp 199–272
Eagle, Grand, and Gunnison rivers H, Ann 8, pp 163–174
Grand River district H, Ann 9, pp 93–98
northwestern H, Ann 10, p 39
plains H, Ann 7, pp 129–131
San Juan region H, Ann 8, pp 193–209; H, Ann 9, pp 268–276
Spanish Peaks region W, 1879, p 280
White River district H, Ann 10, pp 97–101, 111–114
of Idaho, eastern, and Wyoming, western H, Ann 11, pp 498–508
of New Mexico, north-central W, III, Supp, pp 164–172

Igneous rocks of Utah, Grand River district....H, Ann 9, pp 93–98
of Utah, Henry Mountains, lithologic character of....HM, pp 61–65
White River district....H, Ann 10, pp 97–101, 111–114
of Wyoming, western, and Idaho, eastern....H, Ann 11, pp 498–508
of Yellowstone Park, petrographic notes on....H, Ann 12, II, pp 57–62
(See, also, Eruptive rocks; Volcanic rocks.)
Ilmenite, analysis of, from Wyoming, Iron Mountain....K, I, p 110
Implements, iron, of Indians of southern California....W, VII, pp 272–276
(See, also, Ethnology and archæology.)
Implements, stone, of southern California....W, VII, pp 49–69
(See, also, Ethnology and archæology.)
Implements and weapons made of bone and wood from southern California..W, VII, pp 222–233
(See, also, Ethnology and archæology.)
Implements, pottery, etc., obtained in New Mexico and Arizona..W, VII, pp 374–390
(See, also, Ethnology and archæology.)
Incrustation, analysis of, from Nevada, Humboldt Range....K, II, p 541
analysis of, from Nevada, Lake Bonneville....K, I, p 502
from Nevada, Peko station....K, II, p 594
Ruby Valley....K, II, p 541
Independence, Iowa, dark shale at, fossils of....H, Bull, vol IV, No 3, pp 725–730
India, primitive lapidarian sculptures in....Eth, V, pp 31–39
Indian Creek, Wyoming, laccolite on....H, Ann 12, II, pp 24–25
Indian languages, comparative vocabulary of....Eth, I, pp 121–153, 249–285; W, VII, pp 424–485
of southern California, analytical report on idioms of....W, 1876, pp 330–343
(See, also, Ethnology and archæology.)
Indian Territory, elevations in..H, Miscl 1 (3d ed), p 10; H, Miscl 1 (4th ed), p 67
locusts in....H, Uncl 14, pp 63–64
Indian tribes of Alaska....Eth, I, pp 1–106
of California....Eth, III
of Northwest....Eth, I, pp 1–106
of Washington, western, and Oregon, northwestern....Eth, I, pp 157–241
(See, also, Ethnology and archæology.)
Indians, houses and house life of....Eth, IV
of Nevada, southern and southeastern....W, 1869, pp 35–37
of Nevada and Arizona....W, 1871, pp 27–29, 74–76
of Nevada, California, and Arizona, miscellaneous ethnographic observations on....H, Ann 10, pp 461–478
of Washington, Skokomish Reservation, customs, language, etc., of....H, Bull, vol III, No 1, pp 57–114
of western States and Territories....W, I, pp 211–222
photographs of, catalogue of....H, Miscl 5 (1st ed), pp 67–83; H, Miscl 9
(See, also, Ethnology and archæology; name of individual tribes and nations.)
Infusorial earth, analysis of, from Nevada, Fossil Hill and Little Truckee River....K, I, p 542
Ingersoll (E.), report on the natural history of the United States Geological and Geographical Survey of the Territories, 1874....H, Ann 8, pp 385–410; H, Bull, vol I, ser 2, No 2, pp 121–124
special report on the Mollusca....H, Bull, vol I, ser 2, No 2, pp 125–142
Innuit, origin of....Eth, I, pp 93–106
terms of relationship used by....Eth, I, pp 117–119
(See, also, Ethnology and archæology.)

Insect fauna, alpine, collected in Colorado and New Mexico....W, 1876, pp 301-305
of Colorado.....H, Ann 7, pp 539-542
Insects affecting the cranberry, with remarks on other injurious insects....H, Ann 10, pp 521-531
collected in 1875, report on..H, Bull, vol III, No 2, pp 355-475; No 4, pp 765-796
of Great Salt Lake and other saline or alkaline lakes in the West H, Ann 6, pp 743-746
injuring field and garden crops in western States and Territories H, Ann 9, pp 589-809
(See, also, Invertebrates.)
Insects, fossil, of Green River shales H, Bull, vol IV, No 4, pp 747-776
of Tertiary, American, first discovered traces of H, Bull, vol III, No 4, pp 741-762
of Colorado and Wyoming, an account of some.....H, Bull, vol IV, No 2, pp 519-542
of North America.....H, Mon XIII
(See, also, Invertebrates, fossil.)
Invertebrates; Acrididæ of North America, synopsis of H, Mon V
Alpheus, synopsis of North American species of H, Bull, vol IV, No 1, pp 189-199
Aphididæ of the United States, notes on, with descriptions of species occurring west of the Mississippi River.....H, Bull, vol V, No 1, pp 1-32
Arachnida, description of new.....H, Ann 6, p 740
Araneæ collected in Colorado in 1875, report on H, Bull, vol III, No 2, pp 477-529
Artemia fertilis Verrill from Great Salt Lake, Utah, notes on.....H, Ann 12, I, pp 459-463
Artemia muehlhausenii, relation of Artemia salina to genus Branchipus Schaefer and.....H, Ann 12, I, pp 466-473
Artemia salina, parthenogenesis in H, Ann 12, I, pp 463-466
relation of Artemia muehlhausenii to genus Branchipus Schaefer and H, Ann 12, I, pp 466-473
bees allied to Melissodes and Anthophora, generic arrangement of H, Bull, vol V, No 3, pp 471-479
beetles collected in Colorado, list of H, Ann 9, pp 811-815
Bembecidæ, description of tribe Stizini.....H, Bull, vol V, No 3, pp 341-347
Bombycidæ and Zygænidæ collected in portions of California and Arizona W, V, pp 795-802
Branchiopodidæ, reproductive habits of, notes on.....H, Ann 12, I, pp 420-452
butterflies collected in Montana and Wyoming, list of species of.....H, Ann 5, pp 466-467
collected in Colorado.....H, Ann 7, p 542
in Colorado and Utah in 1875.....H, Bull, vol II, No 3, pp 269-270
in Utah, southern, and Arizona, northern, in 1877.....H, Bull, vol IV, No 1, pp 253-258
Cambarus couesi, description of.....H, Bull, vol III, No 4, pp 803-804
Carabidæ, description of two species of, from Toronto, Canada.....H, Bull, vol III, No 4, pp 763-764
Cave fauna in Utah H, Bull, vol III, No 1, pp 157-169
Coleoptera collected in 1871, list of H, Ann 5, pp 382-392
of Arizona and adjacent States W, V, pp 809-827
of California, New Mexico, and Colorado, new species of.....W, 1876, pp 296-300

Invertebrates; Coleoptera of California and adjacent States.....W, v, pp 809–827
Coleoptera of Colorado, eastern, and New Mexico, northeastern, list of..H, Ann 4, pp 469–470
list of.....H, Ann 7, pp 566–571; H, Ann 9, pp 811–815
of Colorado and adjacent States.....W, v, pp 809–827
of Colorado, New Mexico, and California, new species of.....W, 1876, pp 296–300
of Idaho and Wyoming.....H, Ann 6, p 717
of Nevada, Utah, California, Colorado, New Mexico, and Arizona, portions of.....W, v, pp 809–827
of New Mexico, northeastern, and Colorado, eastern, list of.....H, Ann 4, pp 469–470
of New Mexico and adjacent States.....W, v, pp 809–827
of New Mexico, Colorado, and California, new species of..W, 1876, pp 296–300
of Rocky Mountains, alpine regions.....H, Bull, vol IV, No 2, pp 447–480; H, Bull, vol V, No 3, pp 499–520
of Utah and adjacent States.....W, v, pp 809–827
of Wyoming and Idaho.....H, Ann 6, p 717
Crustacea from the West, descriptions of new phyllopod.....H, Bull, vol III, No 1, pp 171–185
Crustacea, amphipod, report on.....H, Ann 7, pp 608–611
Crustacea, fresh-water phyllopod, of North America, synopsis of....H, Ann 7, pp 613–622
Crustacea, Lernæan, of Colorado.....H, Ann 7, p 612
Crustaceans, phyllopod, bibliography of.....H, Ann 12, I, pp 453–457
of North America, monograph on.....H, Ann 12, I, pp 295–457
of West, description of new.....H, Bull, vol III, No. 1, pp 171–175
Diptera collected in Colorado in 1873.....H, Ann 7, pp 561–566
collected in Colorado and Arizona.....W, v, pp 803–807
descriptions of new genera and species of, from the West...H, Bull, vol III, No 2, pp 189–354
earwigs, synopsis of North American.....H, Bull, vol II, No 3, pp 249–260
Entomostraca, new, from Colorado.....H, Bull, vol III, No 1, pp 151–155
gall-fly, pitch pine, description of.....H, Ann 10, pp 527–528
Hemiptera collected in Colorado, eastern, and New Mexico, northeastern, list of.....H, Ann 4, pp 471–472
collected in Colorado, New Mexico, Arizona, and California.....W, 1877, pp 1322-1334
in Dakota and Montana in 1873–74....H, Bull, vol IV, No 2, pp 503–512
in Nevada, Utah, California, Colorado, New Mexico, and Arizona, portions of.....W, v, pp 829–841
of region west of Mississippi River, list of.....H, Bull, vol I, ser 2, No 5, pp 269–361
of western Territories.....H, Ann 5, pp 392–423
Hymenoptera collected in Kansas, northwestern..H, Bull, vol V, No 3, pp 349–370
collected in Nevada, Utah, Colorado, New Mexico, and Arizona, portions of.....W, v, pp 705–736
insect fauna, alpine, of Colorado.....H, Ann 7, pp 539–542
of Colorado and New Mexico.....W, 1876, pp 301–305
insects affecting the cranberry, with remarks on other injurious insects.....H, Ann 10, pp 521–531
affecting field and garden crops in western States and Territories..H, Ann 9, pp 589–809

Invertebrates; insects collected in 1875, report on....H, Bull, vol III, No 2, pp 355–475; No 4, pp 765–796
insects, description of new....H, Ann 6, pp 739–741
of Great Salt Lake and other saline or alkaline lakes in the west..H, Ann 6, pp 743–746
leeches collected in Colorado, list of....H, Ann 7, p 623
leeches, fresh-water, collected in portions of Nevada, Utah, Colorado, New Mexico, and Arizona....W, v, pp 955–967
Lepidoptera collected in Montana in 1874, discussion of....H, Bull, vol IV, No 2, pp 513–517
Lithophane, descriptions of new Noctuidæ and..H, Bull, vol v, No 2, pp 201–208
locust, Rocky Mountain, character, anatomy, enemies, destruction, etc., of....H, Ann 9, pp 589–809; H, Uncl 14, pp 1–476
destruction of young....H, Uncl 11
natural history of....H, Uncl 12
Mallophaga, descriptions of new species of....H, Ann 6, pp 731–734
Mollusca of Colorado....H, Ann 8, pp 389–410
of Nebraska, lacustrine deposits, list of....H, Ann 8, pp 266–269
report on....H, Ann 4, pp 467–469; H, Bull, vol I, ser 2, No 2, pp 125–142
Mollusca, alpine, of Colorado....H, Ann 7, p 542
Mollusca, terrestrial, collected in Colorado, list of....H, Ann 7, p 523
Mollusca, terrestrial and fluviatile, collected in portions of Colorado, Utah, New Mexico, and Arizona....W, v, pp 923–954
moth, cranberry, description of....H, Ann 10, p 522
moths, description of new, with partial catalogue of Noctuæ....H, Bull, vol VI, No 3, pp 563–578
of Colorado, geographical distribution of....H, Ann 7, pp 543–559
of Maine, new species of, with note on noxious species, and remarks on classification....H, Bull, vol VI, No 3, pp 579–591
of North America, description of, with a preliminary catalogue of the species of Hadena and Polia....H, Bull, vol VI, No 2, pp 257–277
moths, noctuid, collected in Colorado in 1875, notes on....H, Bull, vol III, No 1, pp 115–120
moths, tineid, collected in Colorado in 1875, notes on....H, Bull, vol III, No 1, pp 143–145
moths, geometrid, or Phalenidæ of United States, monograph on....H, Mon X
Myriopoda of Colorado....H, Ann 7, p 607
Neuroptera and pseudo-Neuroptera collected in Colorado, report on..H, Ann 7, pp 571–606
collected in portions of Colorado, New Mexico, and Arizona....W, v, pp 909–922
Noctuæ, catalogue, partial, of....H, Bull, vol VI, No 3, pp 568–578
Noctuidæ, descriptions of Lithophane and....H, Bull, vol v, No 2, pp 201–208
of California....H, Bull, vol IV, No 1, pp 169–187
Odonata from the Yellowstone....H, Ann 6, pp 727–729
Orthoptera collected in California, New Mexico, and Colorado....W, 1876, pp 278–295
collected in Colorado in 1875, list of....H, Bull, vol II, No 3, pp 261–267
in Dakota and Montana in 1873, discussion of....H, Bull, vol IV, No 2, pp 481–501
in Nevada, Utah, California, Colorado, New Mexico, and Arizona, portions of....W, v, pp 843–908
list and description of new species of....H, Ann 4, pp 263–284; H, Bull, vol I, ser 1, No 2, pp 63–71

Invertebrates, Orthoptera of Nebraska, notes on H, Uncl 1, pp 249–261
Orthoptera of Rocky Mountain region H, Ann 6, pp 717–725
Orthoptera, saltatorial, of the Rocky Mountain region H, Ann 5, pp 423–466
Phalenidæ of the United States, monograph on H, Mon x
Pyralidæ, preliminary studies on North American H, Bull, vol iv, No 3, pp 669–705
Rhizopods, fresh-water, of North America H, Mon xii
shells, land and fresh-water of Nebraska, catalogue of H, Bull, vol iii, No 3, pp 697–704
spiders, descriptions of two new, from Colorado H, Bull, vol iii, no 2, pp 528–529
Stizini, description of H, Bull, vol v, no 3, pp 341–347
Tineina of Colorado H, Bull, vol iii, No 1, pp 121–142
of Colorado, distribution of H, Bull, vol iii, No 1, pp 147–150
of Texas and more northern localities H, Bull, vol iv, No 1, pp 79–106
of United States and Canada, index to H, Bull, vol iv, No 1, pp 125–167
Tineina and their food plants H, Bull, vol iv, No 1, pp 107–123
weevil, cranberry, description of H, Ann 10, pp 525–526
worms collected near Yellowstone River in 1871 H, Ann 5, pp 381–382
worms, parasitic, found in the brain and other parts of birds H, Ann 6, pp 735–737
Zygænidæ and Bombycidæ collected in portions of California and Arizona .. W,v, pp 795–802
Invertebrates, fossil; collected in 1871–1873, preliminary report on W, Uncl 6
Coleoptera of Tertiary of Rocky Mountains H, Bull, vol ii, No 1, pp 77–87
corals of Cretaceous of Colorado H, Bull, vol v, No 2, pp 220–221
crayfish from Tertiary of western Wyoming H, Bull, vol vi, No 2, pp 391–397
goniatite from Kansas, eastern, notice of H, Bull, vol i, ser 2, No 6, p 445
insects of Green River shale H, Bull, vol iv, No 4, pp 747–776
of Tertiary rocks of Colorado and Wyoming, an account of some .. H, Bull, vol iv, No 2, pp 519–542
of North America H, Mon xiii
first discovered traces of H, Bull, vol iii, No 4, pp 741–762
Mollusca of Colorado H, Ann 8, pp 389–410
of Cretaceous of Colorado H, Ann 7, pp 455–456
of Tertiary of Colorado, Utah, and Wyoming H, Ann 12, i, pp 41–48
molluscan species of Laramie group, distribution of H, Bull, vol iv, No 3, pp 721–724
of Black Hills BH, pp 325–468; PBH
of Canadian formation of Southwest W, iv, pp 50–61
of Utah and Nevada W, Uncl 6, pp 8–12
of Carboniferous of Arizona, Nevada, and New Mexico W, iv, pp 79–161; W, Uncl 6, pp 15–23
of Colorado, Arizona, Utah, Idaho, and Wyoming H, Bull, vol v, No 2, pp 209–220
of Fortieth Parallel region K, iv, pp 50–99, 251–280
of Interior States H, Ann 12, i, pp 155–171
of New Mexico W, iii, Supp, pp iii–xxxvi
of Plateau province UM, pp 88–92, 107–109
of Southwest W, iv, pp 79–161
of Utah and Wyoming, list of, collected in 1871 H, Ann 5, pp 373–374
of western States and Territories H, Ann 12, i, pp 119–141

Invertebrates, fossil, of Colorado, eastern base of Rocky Mountains, note on ..H, Bull, vol I, ser 2, No 1, pp 39–47
of Colorado, Little Thompson Creek, list of H, Ann 11, p 177
St. Vrains River, list of H, Ann 11, p 178
of Cretaceous, geographical distribution of, table showing H, Ann 11, pp 252–253
of Arizona, Utah, Colorado, New Mexico.....W, IV, pp 169–205
of Black Hills BH, pp 383–459; PBH, pp 27–46
of Colorado.....H, Ann 11, pp 175–177, 197, 205–207, 224, 225, 265–266
of Colorado, Arizona, Utah, and New Mexico.....W, IV, pp 169–205
of Fortieth Parallel region K, IV, pp 140–182
of New Mexico, list of.....H, Ann 11, pp 267–268
of New Mexico and Utah W, Uncl 6, pp 24–27
of New Mexico, Colorado, Utah, and Arizona W, IV, pp 169–205
of Plateau province.....UM, pp 94–101, 112–124
of Southwest W, IV, pp 169–205
of Texas, Denison, Helotes, and Salado, list of H, Ann 11, p 268–270
of Utah, Ashleys Fork.....H, Ann 11, p 229
Coalville H, Ann 11, pp 232–239
of Utah and New Mexico W, Uncl 6, pp 24–27
of Utah and Wyoming, list of, collected in 1871.....H, Ann 5, pp 375–376
of Utah, Colorado, New Mexico, and Arizona W, IV, pp 169–205
of Western States and Territories H, Ann 4, pp 300–318; H, Ann 11, pp 273–319; H, Ann 12, I, pp 3–39
list of.....H, Bull, vol III, No 3, p 610
of Wyoming, Bear River Valley and Hilliard station H, Ann 11, pp 248–250
of Wyoming and Utah, list of, collected in 1871.....H, Ann 5, pp 375–376
of Cretaceous and Tertiary of Upper Missouri country H, Mon IX
of Devonian of Fortieth Parallel region.....K, IV, pp 25–50, 246–251
of Fortieth Parallel region K, IV, pp 1–302
of Fox Hills group of Colorado H, Ann 11, pp 179–186, 265–266
of Green River group, list of H, Bull, vol III, No 3, p 611
of Jurassic of Black Hills.....BH, pp 344–382; PBH, pp 13–26
of Fortieth Parallel region.....K, IV, pp 130–139, 284–299
of Plateau province UM, pp 92–94, 110–111
of Southwest W, IV, pp 162–168
of Utah and Arizona W, Uncl 6, pp 23–24
of Utah and Wyoming, list of, collected in 1871.....H, Ann 5, pp 374–375; W, IV, pp 162–168
of western States.....H, Ann 12, I, pp 143–153; H, Bull, vol III, No 3, p 610
of Juratrias of southeastern Idaho.....H, Bull, vol V, No 1, pp 105–117
of Laramie group....H, Ann 12, I, pp 49–103; H, Bull, vol IV, No 3, pp 707–719
geographic distribution of, table showing H, Ann 11, p 255
list of.....H, Bull, vol III, No 3, p 610
of Colorado.....H, Ann 11, pp 165–175, 190–197, 207–215
of Wyoming.....H, Ann 11, pp 215–224, 241–248
of Nebraska, eastern H, Uncl 1, pp 140–239
of Nevada, Utah, Colorado, New Mexico, and Arizona in 1871–1874, portions of W, IV, pp 1–219
of North America, western portion, catalogue of, from the fresh- and brackish-water deposits H, Bull, vol III, No 3, pp 607–614
of Plateau province.....UM, pp 74–135
of Potsdam of Fortieth Parallel region.....K, IV, pp 205–231

Invertebrates, fossil, of Primordial of Black Hills ...BH, pp 333–344; PBH, pp 8–11
of Primordial of Southwest W, IV, pp 32–49
of Utah and Nevada W, Uncl 6, pp 6–8
of shale, dark, of Independence, Iowa H, Bull, vol IV, No 3, pp 725–730
of Silurian of Fortieth Parallel region K, IV, pp 17–25, 205–246
of Southwest W, IV, pp 32–78
of Utah, Nevada, and New Mexico W, Uncl 6, pp 6–14
of Tertiary of Fortieth Parallel region K, IV, pp 182–197
of Plateau province UM, pp 102–106, 125–135
of Southwest W, IV, pp 206–216
of Utah and Wyoming, list of, collected in 1871 H, Ann 5, pp 376–377
of Tertiary and Cretaceous of the Upper Missouri country H, Mon IX
of Tertiary lake basin at Florissant H, Bull, vol VI, No 2, pp 288–300
of Trenton group of Nevada and New Mexico W, Uncl 6, pp 12–14
of Southwest W, IV, pp 62–78
of Triassic of Fortieth Parallel region K, IV, pp 99–129, 280–283
of Idaho, southeastern H, Ann 12, I, pp 105–108
of Utah and Wyoming, list of H, Ann 5, pp 373–377
of Vancouver's and Sucia islands H, Bull, vol II, No 4, pp 351–374
of Wasatch of Colorado, White River Valley H, Ann 11, pp 226–229
of Waverly group of Fortieth Parallel region K, IV, pp 251–264
Orthoptera of Tertiary of Rocky Mountains H, Bull, vol I, ser 2, No 6, pp 447–449
Physidæ and Unionidæ collected in Montana in 1876, descriptions of...H, Bull, vol III, No 3, pp 599–602
Physopoda, Tertiary of Colorado H, Bull, vol I, ser 2, No 4, pp 221–223
preservation of conditions of H, Bull, vol V, No 1, pp 133–141
Uintacrinus Grinnell, notes on H, Bull, vol II, No 4, pp 375–378
Uniones of Tertiary of Wyoming and Utah, new species of H, Bull, vol III, No 3, pp 603–606
Unionidæ of Mesozoic and Cenozoic of North America, comparison with living species H, Bull, vol III, No 3, pp 615–624
Unionidæ and Physidæ collected in Montana in 1876, descriptions of...H, Bull, vol III, No 3, pp 599–602
Invertebrate paleontology, bibliography of North American H, Miscl 10, H, Bull, vol V, No 1, pp 143–152
Iowa, elevations in H, Miscl 1 (3d ed), pp 6–8; H, Miscl 1 (4th ed), pp 68–75
Independence, dark shale at, fossils of H, Bull, vol IV, No 3, pp 725–730
locusts in H, Ann 9, p 617; H, Uncl 14, pp 77–80, App, pp 104–110
Iowa mining district, Idaho, description of W, 1878, p 89
Ireland, primitive lapidarian sculptures in Eth, V, pp 17–18
Iron in Utah, southwestern W, III, pp 261–263
Iron implements of Indians of southern California W, VII, pp 272–276
(See, also, Ethnology and Archæology.)
Iron ore, analyses of, from Colorado K, III, p 483
analysis of, from Colorado, Golden H, Ann 9, p 205
from Nevada, Palisade Canyon K, II, p 586
from Utah, southwestern W, III, p 262
from Wyoming, Iron Mountain K, II, p 151
Sheep Butte K, II, p 151
of New Mexico, Galisteo Creek region W, III, Supp, pp 394–395
Ironstone, analyses of, from Wyoming, Carbon K, I, p 542
Irrigable lands, selection and water supply of, and other questions relating to AL, pp 81–92

Irrigation, advantages of, storage of water, etc AL, pp 10-14
in California, Santa Clara Valley H, Ann 5, pp 269-271
in Colorado H, Ann 3, pp 149-150; H, Ann 1-3, pp 145-146; H Ann 10, pp 339-343
in western Territories W, I, pp 192-205
Jackson (W. H.), ancient ruins in southwestern Colorado H, Ann 8, pp 367-381; H, Bull, vol 1, ser 2, No 1, pp 17-30
descriptive catalogue of photographs of North American Indians H, Miscl 9
descriptive catalogue of photographs of the United States Geological Survey of the Territories H, Miscl 5
notice of the ancient ruins in Arizona and Utah lying about the Rio San Juan H, Bull, vol II, No 1, pp 25-45
report on ancient ruins examined in 1875 and 1877 H, Ann 10, pp 409-453
Jackson Hole, Wyoming, geology of H, Ann 11, pp 443-448
Jackson Lake, Wyoming, geology near Ann 6, pp 261-264
James (T. P.), Musci of Great Basin K, v, pp 398-411
Musci of the Southwest W, VI, pp 341-351
plants determined by W, Uncl, 5, pp 58-62
Jenney (W. P.), mineral resources of Black Hills BH, pp 225-324
John Day Ridge and Basin, Wyoming, geology of H, Ann 12, I, pp 187-199
John Day River, Wyoming, geology near H, Ann 11, pp 543-545
John Day group, vertebrates of White River group and H, Mon III, pp 759-1002
John Gray Lake, Idaho, geology near H, Ann 11, pp 357-358
Jordan (D. S.), catalogue of the fishes of the fresh waters of North America H, Bull, vol IV, No 2, pp 407-442
notes on a collection of fishes from the Rio Grande, at Brownsville, Texas H, Bull, vol IV, No 2, pp 397-406; H, Bull, vol IV, No 3, pp 663-667
report on collection of fishes made by Dr. Elliott Coues in Dakota and Montana during seasons of 1873 and 1874 H, Bull, vol IV, No 4, pp 777-799
Jordan (D. S.) and Henshaw (H. W.), report upon fishes collected in California and Nevada, 1875-1877 W, 1878, pp 187-205
Judith River, Montana, geology of region of H, Bull, vol III, No 3, pp 565-577
Judith River group, geology of H, Bull, vol III, No 3, pp 565-567
invertebrate fossils of, list of H, Bull, vol III, No 3, p 612
of Montana, Physidæ and Unionidæ from H, Bull, vol III, No 3, pp 599-602
of Missouri River region, upper H, Mon IX, pp xlvii-lv
fossil vertebrates of H, Bull, vol III, No 3, pp 588-597
Julesburg, Colorado, astronomical determinations at W, II, pp 433-448
Julian district, California, notes on W, 1876, pp 59-60
Junction Valley, Wyoming, geology of H, Ann 12, II, pp 42-47
Jurassic fossils; invertebrates of Black Hills BH, pp 344-382, PBH, pp 13-26
invertebrates of Fortieth Parallel region K, IV, pp 130-139, 284-297
of Plateau province UM, pp 92-94, 110-111
of southwest W, IV, pp 162-168
of Utah and Arizona W, Uncl 6, pp 23-24
of Utah and Nevada W, IV, pp 162-168
of Utah and Wyoming, list of, collected in 1871 H, Ann 5, pp 374-375
of Western States H, Ann 12, I, pp 143-153
list of H, Bull, vol III, No 3, p 610
(See, also, Invertebrates, fossil.)
of Montana and Idaho H, Ann 6, pp 434-435, 471-474
of Utah and Wyoming H, Ann 5, pp 374-375
of western States H, Ann 12, I, pp 143-153
(See, also, Invertebrates, fossil; Vertebrates, fossil.)

Jurassic rocks of Basin Range W, III, pp 174–175
of Black Hills BH, pp 151–169
of Colorado, central W, III, pp 381–382
Eagle, Grand, and Gunnison rivers H, Ann 8, pp 124–128
Front Range H, Ann 8, pp 44–45; K, II, pp 37–39
east of H, Ann 7, pp 98–100
northwestern H, Ann 10, p 28
of Colorado Plateau W, III, pp 280–282
of Fortieth Parallel area K, I, pp 285–295, 343–347
of Idaho, eastern H, Ann 11, pp 623–624
eastern, and Wyoming, western H, Ann 11, pp 494–496
of Utah, high plateaus HP, pp 150–154
of Wyoming, Colorado Range K, II, pp 37–39
Rawlings Peak, vicinity of H, Ann 11, p 121
Sweetwater Valley H, Ann 11, pp 107–108
western H, Ann 11, pp 623–624
western, and Idaho, eastern H, Ann 11, pp 494–496
Wind River Range, vicinity of H, Ann 11, pp 82–84
Juratrias rocks of Colorado, Sangre de Cristo Range H, Ann 9, p 123
of Colorado, south-central, and New Mexico, north-central W, III, Supp, pp 85–87
Spanish Peaks region W, 1879, p 276
White River district H, Ann 10, pp 72–74, 107–108
of Idaho, southeastern, fossils of H, Bull, vol v, No 1, pp 105–117
of New Mexico, north-central, and Colorado, south-central W, III, Supp, pp 85–87
of Utah, Henry Mountains HM, pp 5–8
Uinta Mountains UM, pp 150–153
White River district H, Ann 10, pp 72–74, 107–108
Red beds of Colorado, White River district H, Ann 10, pp 72–73
Juratrias section of southeastern Idaho and western Wyoming H, Bull, vol v, No 1, pp 119–123
(See, also, Triassic; Jurassic.)
Kai-ga-ni language, vocabulary of Eth, I, pp 135–142
(See, also, Ethnology and archæology.)
Kalispelm, language, vocabulary of Eth, I, pp 267–283
(See, also, Ethnology and archæology.)
Kamma Mountains, Nevada, geology of K, II, pp 786–790
Kampf (F.), report on astronomical observations at Colorado Springs W, Uncl 3, pp 47–82
Kampf (F.) and Clark (J. H.), report on astronomical observations at Cheyenne, Wyoming W, Uncl 3, pp 2–45
Kampf (F.), Clark (J. H.), Maryatt (W. W.), and Safford (T. H.), astronomical determinations in Nevada, Utah, Montana, Wyoming, Nebraska, Colorado, and New Mexico, 1872–74 W, II, pp 1–491
Kaniagmut language, vocabulary of Eth, I, pp 136–142
(See, also, Ethnology and archæology.)
Kansas, climate of eastern Colorado and western H, Ann 4, pp 453–456
Cretaceous rocks of, fossil reptiles and fishes of H, Ann 4, pp 385–425
geology and paleontology of H, Ann 5, pp 318–349
Cretaceous and Tertiary formations of Nebraska and, fossil plants of H, Ann 4, pp 370–385
Cretaceous and Tertiary periods of, notes on H, Ann 9, pp 277–294; H, Bull, vol II, No 3, pp 211–221
elevations in H, Miscl 1 (3d ed), pp 10–11; H, Miscl 1 (4th ed), pp 75–79

Kansas, Goniatite from eastern, notice of....H, Bull, vol I, ser 2, No 6, p 445
Hymenoptera collected in northwestern....H, Bull, vol V, No 3, pp 349–370
industrial resources of eastern Colorado and western....H, Ann 4, pp 442–458
locusts in....H, Ann 9, pp 615–616; H, Uncl 14, pp 68–74, App, pp 85–103
law regarding destruction of....H, Uncl 9, p 10
Tertiary and Cretaceous formations of Nebraska and, fossil plants of...H, Ann 4, pp 370–385
Tertiary and Cretaceous periods of, notes on....H, Ann 9, pp 277–294; H, Bull, vol II, No 3, pp 211–221
water resources of eastern Colorado and western....H, Ann 4, pp 448–452
Kansas Pacific Railway, experiments in cultivation on the plains along the line of....H, Ann 5, pp 274–279
Kaolin, analysis of, from Utah, Sam Pitch Creek....W, III, p 263
in Utah, Gunnison....W, III, p 263
Kaolinite, analysis of, from Arizona, San Francisco River....W, III, p 637
analysis of, from Utah, Gunnison....W, III, p 637
Kawsoh Mountains, Nevada, geology of....K, II, pp 766–774
Kearsarge district, California, notes on....W, 1871, p 50
Kanosha Range, Colorado, topographic features of....H, Ann 9, pp 410–411
King (C.), reports by. (See pp 38–39 of this bulletin.)
systematic geology of Fortieth Parallel region....K, I
Kingsley (J. S.), a synopsis of the North American species of the genus Alpheus....H, Bull, vol IV, No 1, pp 189–199
Kinsley district, Nevada, granite and Archean rocks of....K, I, pp 60–62
Kittistzu language, vocabulary of....Eth, I, pp 143–153
(See, also, Ethnology and archæology.)
Kjökkenmöddings and graves of California, Santa Barbara Islands and the adjacent mainland....H, Bull, vol III, No 1, pp 37–56
of Oregon, coast of....H, Bull, vol III, No 1, pp 27–35
(See, also, Ethnology and archæology.)
Klamath Indians, ethnographic sketch, grammar, text, dictionary of language, bibliography, etc., of....Eth, II
(See, also, Ethnology and archæology.)
Klamath region, Oregon, geography, flora, and fauna, etc., of....Eth, II, pt 1, pp xv–xxvii
Klett (F.), the cachina: a dance at the pueblo of Zuñi....W, VII, pp 332–336
Komookhs language, vocabulary of....Eth, I, pp 269–283
(See, also, Ethnology and archæology.)
Kulleespelm language, vocabulary of....Eth, I, pp 267–283
(See, also, Ethnology and archæology.)
Kuwalitsk language, vocabulary of....Eth, I, pp 269–283
(See, also, Ethnology and archæology.)
Kwa-kiutl language, vocabulary of....Eth, I, pp 143–153
(See, also, Ethnology and archæology.)
La Plata River, Colorado, ruins on....H, Bull, vol II, No 1, pp 6–7
La Plata Valley, Colorado, geology of....H, Ann 9, pp 245–248, 268–272
La Veta Pass, Colorado, mountain ranges between head of the Pecos and, geology of....W, 1876, pp 199–202
Labradorite, analysis of, from Canada, Chateau Richer....K, II, p 14
Labran, Colorado, astronomical determinations at....W, II, pp 265–288
Laccolite, definition and cross sections of....HM, pp 19–20
in Wyoming, Indian Creek....H, Ann 12, II, pp 24–25
natural history of....HM, pp 51–60
Ladd (S. B.), topographical reports of..H, Ann 7, pp 661–669; H, Ann 8, pp 435–442

Lagopus leucurus, breeding habits, nests, and eggs of.....H, Bull, vol I, ser 2, No 5, pp 263–266
(See, also, Vertebrates.)
Lahontan, glacial lake, discussion of.....K, I, pp 504–529
Lake basin, Tertiary, at Florissant, Colorado.....H, Ann 12, I, pp 271–293
Lake Fork, Colorado, physical features near.....W, 1876, pp 93–95
Lake Range, Nevada, geology of.....K, II, pp 814–816
granite rocks of.....K, I, pp 96–97
Lakes, elevation of.....H, Miscl 1, p 46; H, Miscl 1 (3d ed), p 29; H, Miscl 1 (4th ed), pp 141–144; W, Uncl 16, pp 172–180
Lakes, ancient, of western America, deposits and drainage of...H, Ann 4, pp 329–339
Lakes, glacial, of Colorado, central.....W, III, pp 453–471
of Fortieth Parallel region.....K, I, pp 488–529
Lakes, Quaternary, of California, southeastern.....W, 1876, pp 177–179
Lakes, Tertiary, of Great Basin.....K, I, pp 439–458
Land grants in aid of internal improvements.....AL, pp 165–182
Land sculpture in Utah, Henry Mountains.....HM, pp 99–150
Land system needed for arid region.....AL, pp 25–45
Langford (N. P.), Report on resources of Snake River Valley...H, Ann 6, pp 86–91
Language and utensils of modern Utes.....H, Bull, vol II, No 1, pp 71–76
(See, also, Ethnology and archæology.)
Lanius ludovicianus excubitorides, osteology of ...H, Bull, vol VI, No 2, pp 351–359
(See, also, Vertebrates.)
Lapidarian sculptures in the Old World and America, observations on cup-shaped and.....Eth, V
(See, also, Ethnology and archæology.)
Laramie group, age, conditions of deposition, etc., of.....H, Ann II, pp 259–265
flora of.....H, Mon VIII, pp 109–126
invertebrate fossils of.....H, Ann 12, I, pp 49–103
from Colorado, Bijou Creek.....H, Ann 11, pp 190–197
Crow Creek Valley.....H, Ann 11, pp 165–175
Danforth Hills.....H, Ann 11, pp 211–215
Yampa Valley.....H, Ann 11, pp 207–211
from Wyoming, Bear River Valley.....H, Ann 11, pp 241–248
Bitter Creek Valley.....H, Ann, 11 pp 215–224
Point of Rocks station, list of.....H, Ann 11, p 216
Rock Springs, list of.....H, Ann 11, p 215
geographic distribution of, table showing.....H, Ann 11, p 255
list of.....H, Bull, vol III, No 3, p 610
new species of, descriptions of.....H, Bull, vol IV, No 3, pp 707–719
molluscan species of, distribution of.....H, Bull, vol IV, No 3, pp 721–724
of Colorado, northwestern.....H, Ann 10, pp 33–34
south-central and New Mexico, north-central.....W, III, Supp, pp 102–130
Spanish Peaks region.....W, 1879, pp 277–279
White River district.....H, Ann 10, pp 77–78
of Fortieth Parallel region.....K, I, pp 331–339, 350–357
of New Mexico, north-central, and Colorado, south-central.....W, III, Supp, pp 102–130
of Utah, Bear River region.....H, Ann 11, pp 629–632
White River district.....H, Ann 10, pp 77–78
of Wyoming, Green River region.....H, Ann 11, pp 629–632
Rawlings, vicinity of.....H, Ann 11, pp 124–127

Laramie group, of Wyoming, western, and adjacent regions H, Bull, vol v, No 2, pp 195–200
of Wyoming, Wind River Range, vicinity of H, Ann 11, p 88
relations of W, III, Supp, pp 131–158
remarks on H, Bull, vol IV, No 4, pp 865–876
Laramie Hills, geology of K, II, pp 7–26
physical aspects of K, II, pp 4–7
Laramie Plains, Wyoming, agriculture on H, Ann 4, pp 220–223
geology of K, II, pp 73–93; H, Ann 4, pp 121–133
Laramie region, Wyoming, geology of ..LOR, 1868, pp 235–236; H, Ann 2, pp 81–83
Las Animas mining district, Colorado, notes on W, 1879, p 196
Las Animas River, New Mexico, ruins along W, VIII, pp 347–350
Las Vegas, New Mexico, astronomical determinations at W, II, pp 385–401
Lassen Peak region, California, topography, geology, etc., of ...W, 1879, pp 209–214
Le Conte (J. L.), Coleoptera of the alpine regions of the Rocky Mountains..H, Bull, vol IV, No 2, pp 437–480; H, Bull, vol V, No 3, pp 499–520
new species of Coleoptera from New Mexico, Colorado, and California..W, 1876, pp 296–300
Lead Creek, Wyoming, geology near H, Ann 11, p 527
Leeches collected in Colorado, list of H, Ann 7, p 623
(See, also, Invertebrates.)
Leeches, fresh-water, collected in portions of Nevada, Utah, Colorado, New Mexico, and Arizona W, V, pp 955–967
(See, also, Invertebrates.)
Leidy (J.), Contributions to the extinct vertebrate fauna of the western Territories H, Mon I
fresh-water Rhizopods of North America H, Mon XII
notice of some worms collected near Yellowstone River in 1871 H, Ann 5, pp 381–382
on remains of primitive art in the Bridger Basin of southern Wyoming. H, Ann 6, pp 651–653
on the fossil verterbrates of the early Tertiary formation of Wyoming..H, Ann 5, pp 353–372
report on the vertebrate fossils of the Tertiary formations of the West. H, Ann 4, pp 340–370
Leidy, Mount, Wyoming, geology near H, Ann 11, pp 456–461
Lepidoptera collected in Montana in 1874, discussion of H, Bull, vol IV, No 2, pp 513–517
(See, also, Invertebrates.)
Lesquereux (L.), Cretaceous flora of the western Territories H, Mon VI
Cretaceous and Tertiary floras of the western Territories H, Mon VIII
enumeration and description of the fossil plants, from the specimens obtained in the explorations of Dr. F. V. Hayden, 1870 and 1871 H, Ann 5, pp 283–303
enumerations, with descriptions, of some Tertiary fossil plants, from specimens procured in the explorations of Dr. F. V. Hayden in 1870 H, Ann 5, Supp
Lignitic formation and fossil flora of Rocky Mountain region H, Ann 6, pp 317–427
Lignitic formation and its fossil flora H, Ann 7, pp 365–425
new species of fossil plants from the Cretaceous formation of the Dakota group H, Bull, vol I, ser 2, No 5, pp 391–400
on some new species of fossil plants from the Lignitic formations H, Bull, vol I, ser 2, No 5, pp 363–389

Lesquereux (L.), on the fossil plants of the Cretaceous and Tertiary formations of Kansas and Nebraska....H, Ann 4, pp 370–385
on the general characters and relation of the flora of the Dakota group. H, Bull, vol I, ser 1, No 2, pp 52–62
on the Tertiary flora of the North American Lignitic considered as evidence of the age of the formation....H, Ann 8, pp 275–315
remarks on specimens of Cretaceous and Tertiary plants secured by the Survey in 1878, with a list of species hitherto described...H, Ann 10, pp 481–520
review of the Cretaceous flora of North America....H, Ann 8, pp 316–365
review of the fossil flora of North America....H, Bull, vol I, ser 2, No 5, pp 233–248
Tertiary flora of North America....H, Ann 5, pp 304–318
Tertiary flora of the western Territories....H, Mon VII
Leucite rock, analysis of, from Wyoming, Green River Basin....K, II, p 237
of Wyoming, Leucite Hills, microscopic petrography of....K, VI, pp 259–261
thin section of, from Wyoming, Leucite Hills....K, VI, pl 5
Leucitophyrite, analysis of, from Wyoming, Leucite Hills....H, Ann 11, p 135
Leucosticte, monograph of....H, Bull, vol I, ser 2, No 2, pp 51–82
(See, also, Vertebrates.)
Leucosticte tephrocotis, sexual, individual, and geographical variation in..H, Bull, vol II, No 4, pp 345–350
(See, also, Vertebrates.)
Lewis and Clarke, travels of, account of publications relating to, with a commentary on the zoological results of their expedition....H, Bull, vol I, ser 2, No 6, pp 417–444
Lignite, analysis of, from Colorado, Boulder, Marshall mine....K, III, p 483
analysis of, from Colorado, South Boulder Creek....H, Ann 3, p 94; H, Ann 1–3, p 194
deposits of, in the upper Missouri region....H, Mon IX, pp xlvii–lxi
formation of....H, Ann 6, pp 350–358
of Colorado, age of....W, III, pp 404–410
Lignitic formation, age of....H, Ann 7, pp 367–379
age of, as determined by fossil plants....H, Mon VIII, pp 309–355
exposures, study, etc., of....H, Ann 8, pp 19–33
of Colorado....H, Ann 8, pp 28–35
eastern, and portions of Wyoming...H, Bull, vol I, ser 2, No 5, pp 401–411
front range, east of....H, Ann 7, pp 106–110
Middle Park....H, Ann 7, pp 156–157
of North America, distribution, age, stratigraphy, etc., of..H, Mon VII, pp 3–31
Tertiary flora of, considered as evidence of the age of the formations. H, Ann 8, pp 275–315
of Rocky Mountain region....H, Ann 6, pp 317–427
plants of, some new species of....H, Bull, vol I, ser 2, No 5, pp 363–389
(See, also, Fort Union group.)
Lignitic formation and its fossil flora....H, Ann 7, pp 365–425
Lilowat language, vocabulary of....Eth, I, pp 268–283
(See, also, Ethnology and archæology.)
Limestone, analysis of, from Colorado....K, II, p 39
analysis of, from Colorado, Browns Park....K, II, p 274
from Colorado, Green River....K, I, p 542
North Park....K, I, p 542; K, II, pp 112–129
from Nevada, Carson River, vicinity of....K, I, p 542

Limestone, analysis of, from Nevada, Clover Peak Range K, I, p 542
analysis of, from Nevada, Cottonwood Canyon, vicinity of K, II, p 723
from Nevada, East Humboldt Range K, I, p 542; K, II, p 530
Fossil Hill K, I, p 542; K, II, p 767
Humboldt Mountains K, I, p 542
Kawsoh Mountains K, II, p 773
Kinsley district K, I, p 110
Maggie Creek Gap K, I, p 542
Peoquot Range K, I, p 542
Pine Valley K, II, p 563
Pyramid Lake K, I, p 110
Star Canyon K, II, p 723
Tenabo Peak K, I, p 542; K, II, p 572
Truckee region K, II, p 821
White Pine district K, III, p 413
White Pine Mountains K, I, p 542
Wrights Canyon K, I, p 542
from Utah, Bear River, vicinity of K, I, p 542
Brush Creek K, I, p 542
City Creek K, II, p 376
Cottonwood Canyon, vicinity of K, I, p 542
Duchesne Fork K, II, p 304
Uinta Mountains K, I, p 542
Ute Peak K, II, p 411
Wasatch Range K, II, p 373
Weber Canyon K, II, p 389
from Wyoming, Henrys Fork K, I, p 542
Laramie Plains K, I, p 542
Red Butte K, I, p 542; K, II, p 78
Lincoln, Mount, Colorado, meteorological observations at H, Miscl 6, pp 22–34
Lincoln Valley, Idaho, geology of H, Ann 11, pp 330–335
Lionite, analysis of, from Colorado, Magnolia district, Mountain Lion mine H, Ann 10, p 146
Lithology and mineralogy of portions of Nevada and California W, 1878, pp 184–185
Lithophane, descriptions of new Noctuidæ and H, Bull, vol v, No 2, pp 201–208
(See, also, Invertebrates.)
Little Book Cliffs, Colorado, geology of H, Ann 10, pp 176–177
Little Cedar Mountains, Nevada, geology of K, II, pp 512–514
Little Colorado River, Arizona, geology between Camp Apache and W, III, pp 215–218
geology between Verde River and W, III, pp 209–215
Little Snake River, Colorado, geology of valley of K, II, pp 187–189
geology near K, II, pp 219–222
Lockwood (D. W.), reports of W, 1869, pp 62–71; W, 1871, pp 62–76
Locust, Rocky Mountain, character, anatomy, enemies, destruction, etc., of H, Uncl 14, pp 1–476
distribution, habits, etc., of H, Ann 9, pp 589–693
natural history of H, Uncl 12
report on, and other insects injuring or likely to injure field and garden crops in the Western States and Territories H, Ann 9, pp 589–809
destruction of young H, Uncl 9; H, Uncl 11
Lodes and veins, formation of, search for, etc H, Ann 7, pp 278–280
Lodi mining district, Nevada, description of W, 1877, pp 1270–1271
Lodore Canyon, Utah, geology near K, II, pp 288–290

Lodore group of Uinta Mountains UM, p. 147
Loess, analysis of, from Germany, Rhine H, Ann 8, p 246; H, Uncl I, p 12
analysis of, from Missouri, Hannibal H, Ann 8, p 246
from Nebraska, Loup River H, Ann 8, p 246
Omaha, vicinity of H, Ann 8, p 246
Kearney, vicinity of H, Ann 8, p 246
Sutton H, Ann 8, p 246
in Nebraska, origin, scenery, age, etc., of H, Ann 8, pp 245–255
Loew (O.), agricultural resources of northern New Mexico and southern Colorado W, 1875, pp 129–139
alkaline lakes, thermal springs, mineral springs, and brackish waters of southern California and adjacent country W, 1876, pp 188–199
geographical distribution of vegetation in the Mohave Desert .. W, 1876, pp 222–224
geological and mineralogical character of southeastern California and adjacent regions W, 1876, pp 173–188
geological and mineralogical report on portions of Colorado and New Mexico W, 1875, pp 97–116
mineralogical, agricultural, and chemical conditions observed in portions of Colorado, New Mexico, and Arizona in 1873 W, III, pp 569–661
notes upon ethnology of southern California and adjacent regions W, 1876, pp 321–327
physical and agricultural features of southern California, and especially of the Mohave Desert W, 1876, pp 214–222
physiological effects of a very hot climate W, 1876, pp 328–330
pueblo of Acoma W, VII, pp 325–326
ruins in New Mexico W, VII, pp 337–345; W, 1875, pp 174–178
Lone mining district, New Mexico, notes on W, 1879, p 192
Lone Mountain district, Nevada, notes on W, 1871, p 35
Lone Pine district, California, notes on W, 1871, p 50
Lone Valley mining district, California, notes on W, 1879, p 192
Logarithm, traverse, and altitude tables W, Uncl 11
Longitude determinations in southern and southeastern Nevada .. W, 1869, pp 30–35
Lookout district, California, notes on W, 1876, pp 67–68
Los Angeles, California, geology of vicinity of W, 1876, pp 158–159
Los Cerillos mines, New Mexico, notes on W, 1879, p 197
Loup Fork group, Canidæ of H, Bull, vol VI, No 2, pp 387–390
occurrence and character of H, Mon III, pp 16–19
of Colorado, vertebrates of H, Ann 7, pp 518–532
of New Mexico, Rio Grande Valley W, IV, pp 20–25
vertebrates of W, IV, pt ii, pp 283–365
Ludlow (H. H.), report of W, 1879, pp 261–265
Lyle (D. A.), report of W, 1871, pp 76–90
Macomb (M. M.), report of W, 1877, pp 1278–1284; W, 1878, pp 139–145; W, 1879, pp 253–261; W, 1881; W, 1882; W, 1883
tables of geographic positions, azimuths, and distances W, Uncl 16
McCauley (C. A. H.), notes on the ornithology of the region about the source of the Red River of Texas H, Bull, vol III, No 3, pp 655–695
McChesney (C. E.), notes on the birds of Fort Sisseton, South Dakota H, Bull, vol V, No 1, pp 71–103
notes on the mammals of Fort Sisseton, South Dakota H, Bull, vol IV, No 1, pp 201–218
McCoy Creek, Idaho, geology near H, Ann 11, pp 391–402
Madison River, Montana, geology along H, Ann 6, pp 160–167

Madison Valley, Montana, explorations and geology of H, Ann 6, pp 55–66
Malade Range and Valley, Idaho and Utah, geology of H, Ann 11, pp 606–609
Mallery (G.), a calendar of the Dakota Nation H, Bull, vol III, No 1, pp 3–25
Mallophaga, descriptions of new species of H, Ann 6, pp 731–734
(See, also, Invertebrates.)
Mammals collected in California in 1875 W, 1876, pp 305–312
collected in Idaho, Wyoming, and Utah in 1872 H, Ann 6, pp 661–669
in Nevada, Utah, California, Colorado, New Mexico, and Arizona, 1871–74, report on W, v, pp 35–129
in Wyoming, list of H, Ann 4, pp 461–462
geographical distribution of H, Bull, vol IV, No 2, pp 313–377
geographical variation among North American, especially in respect to size H, Bull, vol II, No 4, pp 308–344
of Fort Sisseton, South Dakota H, Bull, vol IV, No 1, pp 201–218
of western United States, geographical distribution and variation in W, v, pp 23–34
synopsis of insectivorous H, Bull, vol I, ser 2, No 2, pp 91–120
(See, also, Vertebrates.)
Mammals, American insectivorous, notes on H, Bull, vol III, No 3, pp 631–653
(See, also, Vertebrates.)
Mammoth mining district, Nevada, description of W, 1877, pp 1269–1270
Mancos River, Colorado, cliff houses and ruins on H, Ann 10, pp 391–399; H, Bull, vol II, No 1, pp 10–18
ruins, ancient, in valley of H, Bull, vol I, sec 2, No. 1, pp 17–30
Map, geologic, of Arizona, northeastern, portions of Colorado, New Mexico, Utah and H, Atlas, sheet XV
(See, also, p 63 of this bulletin.)
of Colorado H, Atlas, sheet IV; H, Ann 10, at end.
Arkansas Valley, Upper, showing moraines H, Ann 8, p 48
central H, Atlas, sheet XIII; see, also, p 36 of this bulletin
Central City mining region H, Ann 7, p 280
Colorado Springs and vicinity H, Ann 8, p 40
Eagle River, vicinity of H, Ann 8, p 84
Elk Mountains H, Ann 8, p 73
Florissant, Tertiary lake basin at H, Mon XIII, frontispiece; H, Ann 12, I, p 293; H, Bull, vol VI, No 2, p 300
Front Range, eastern slope, from Big Thompson Creek to South Platte River H, Ann 7, p 147
Grand River Valley H, Ann 10, p 176
Hot Springs H, Ann 7, p 163
showing moraines H, Ann 7, p 159
Grand and Gunnison rivers, basaltic plateaus between H, Ann 8, p 174
Green River Basin K, Atlas
showing orographic disturbances K, I, p 760
Gunnison region, showing areas of rhyolite and breccia H, Ann 8, p 170
Gunnison River H, Ann 8, p 100
south side of H, Ann 9, p 38
vicinity of, showing areas of porphyritic trachyte H, Ann 8, p 166
Middle Park H, Ann 7, p 155
Mount Lincoln mining region H, Ann 7, p 302
north central H, Atlas, sheet XII
northwestern, portion of H, Ann 10, p 60
northeastern Utah, and H, Atlas, sheet XI
Park View Peak and vicinity, showing trachyte dikes H, Ann 7, p 174

Map, geologic, of Colorado, Purgatory River region.....W, III, Supp, pocket
of Colorado, Rio Grande region.....W, III, Supp, pocket
Rocky Mountains in Wyoming and.....K, Atlas
showing orographic disturbances.....K, I, p 760
San Miguel Plateau.....H, Ann 10, p 165
showing general orographic features.....H, Ann 9, p 242
south-central, portion of New Mexico and.....H, Atlas, sheet XVI
southwestern portions of New Mexico, Arizona, Utah, and.....H, Atlas, sheet XV
Spanish Peaks region.....H, Ann 9, p 132
Trinidad region.....H, Ann 9, p 196
Unaweep Canyon.....H, Ann 9, p 58
Weeminuche glacier.....H, Ann 9, p 216
western part of Utah and.....H, Atlas, sheet XIV
(See, also, p 63 of this bulletin.)
of Dakota and Nebraska.....H, Uncl 1, at end
of Fortieth Parallel area, Archean and granitic exposures.....K, I, p 126
Archean, granitic, and Paleozoic rocks.....K, I, p 248
Mesozoic and pre-Mesozoic rocks.....K, I, p 356
Tertiary rocks.....K, I, p 458
volcanic rocks.....K, I, p 676
of Idaho, portions of Utah, Wyoming, and.....H, Ann 12, map case
Snake River, sources of. (See p 36 of this bulletin.)
of Montana, Gallatin, Madison, and Yellowstone basins. (See p 36 of this bulletin.)
of Nebraska and Dakota.....H, Uncl 1, at end
of Nevada, Lake Bonneville. (See p 65 of this bulletin.)
Lake Lahontan.....K, I, p 528
Toyabe Mountains.....K, III, Atlas, pl XIII
Washoe mining district.....K, III, Atlas, pl II
White Pine district.....K, III, Atlas, pl XIV
(See, also, p 63 of this bulletin.)
of Nevada Basin.....K, Atlas
of Nevada Desert, showing orographic disturbances.....K, I, p 760
of Nevada Plateau.....K, Atlas
showing orographic disturbances.....K, I, p 760
of New Mexico, Canadian River and Cimarron Range, vicinity of.....W, III, Supp, pocket
Canadian and Mora rivers, vicinity of.....W, III, Supp, pocket
Galisteo Creek region.....W, III, Supp, pocket
northern portion of Colorado and.....H, Atlas, sheet XVI
northwestern portions of Colorado, Utah, Arizona, and...H, Atlas, sheet XV
Rio Grande, upper region of.....W, III, Supp, pocket
Taos Valley and Upper Pecos region.....W, III, Supp, pocket
Zuni Range, vicinity of.....W, III, p 561
(See, also, p 63 of this bulletin.)
of South Dakota, Black Hills.....BH, Atlas
of Utah, Book Cliffs and Grand River Valley.....H, Ann 10, p 176
eastern part of Colorado and.....H, Atlas, sheet XIV
Henry Mountains.....HM, at end
high plateaus.....HP, Atlas
Lake Bonneville.....K, I, p 528; see, also, p 65 of this bulletin
northeastern, northwestern Colorado and.....H, Atlas, sheet XI
portions of Colorado, New Mexico, Arizona, and.....H, Atlas, sheet XV
of Idaho, Wyoming, and.....H, Ann 12, map case

Map, geologic, of Utah, Salt Lake Basin K, Atlas
of Utah, Salt Lake Basin, showing orographic disturbances K, I, p 760
Uinta Mountains UM, Atlas
(See, also, p 63 of this bulletin.)
of Wyoming, central H, Ann 12, map case; see, also, p 37 of this bulletin
Green River Basin K, Atlas
showing orographic disturbances K, I, p 760
Junction Valley H, Ann 12, II, p 42
portions of Idaho, Utah, and H, Ann 12, map case
Rocky Mountains in Colorado and K, Atlas
showing orographic disturbances K, I, p 760
Snake River, sources of. (See p 37 of this bulletin.)
Yellowstone Lake, showing former extent H, Ann 12, II, p 56
Yellowstone Park H, Ann 12, map case; see, also, p 37 of this bulletin
showing distribution of glacial bowlders H, Ann 11, p 52
Map, topographic, of Alaska Eth, I, pocket
of Arizona, Colorado River, vicinity of W, I, p 170; W, 1876, p 112
Jemez Basin W, III, p 616
Moqui Mesas H, Ann 10, p 453
northeastern parts of Colorado, Utah, New Mexico, and H, Atlas, sheet ix
portions of Arizona, California, and W, 1871, p 96
portions of Colorado, New Mexico, Utah, and, showing locations of ancient ruins and modern pueblos H, Ann 10, p 453; H, Bull, vol II, No 1, p 46
portions of Utah, Nevada, and W, Uncl 2, at end
(See, also, p 60 of this bulletin.)
of California, east central W, 1879, p 211
Klamath River, headwaters of Eth, II, pt 1, frontispiece
Lake Tahoe region. (See p 65 of this bulletin.)
Los Angeles to Colorado River W, 1876, p 112
portions of Arizona, Nevada, and W, 1871, p 96
Santa Barbara Islands H, Bull, vol III, No 1, p 38
Santa Barbara Islands and vicinity W, VII, p 298
Santa Cruz Island H, Bull, vol III, No 1, pp 42, 44, 46, 48, 50
showing distribution of Indian tribes Eth, III, pocket
southeastern, showing depressed area in Colorado Desert W, 1876, p 118
southern, and Nevada, southwestern, map of W, 1876, p 72
Tallac Peak, vicinity of W, I, p 353
Truckee River, vicinity of W, I, p 397
Yosemite Valley. (See p 65 of this bulletin.)
(See, also, pp 60–64.)
of Colorado H, Atlas; H, Ann 10, at end; see, also, p 36 of this bulletin
Bakers Park and vicinity H, Bull, vol I, ser 2, No 3, p 164
central portion H, Atlas, sheet vii; H, Ann 7, p 682; H, Ann 8, p 413; see, also, p 35 of this bulletin
Front Range H, Ann 8, p 40
east of, showing location of coal mines H, Ann 7, p 121
Gilpin County gold region K, III, p 493
Gold Hill mining region, vicinity of H, Ann 7, p 685
Green River Basin K, Atlas
land classification H, Ann 10, at end
Middle Park region and eastern Rocky Mountain slope H, Ann 9, p 440
north central H, Atlas, sheet vi
northwestern, part of Utah and H, Atlas, sheet v

Map, topographic, of Colorado, portions of Utah, New Mexico, Arizona, and, showing location of ancient ruins and modern pueblos...H, Ann 10, p 453
of Colorado, Rocky Mountains in Wyoming and.....K, Atlas
San Juan region.....H, Bull, vol I, ser 2, No 3, p 145; see, also, p 36 of this bulletin
San Luis Valley.....H, Ann 9, p 148
Sierra La Sal.....H, Ann 9, p 60
South Park region.....H, Ann 9, p 440
south-central, northern New Mexico, and.....H, Atlas, sheet x
southwestern, parts of New Mexico, Arizona, Utah, and..H, Atlas, sheet ix
ancient ruins in, showing location of.....H, Bull, vol II, No 1, p 36
Spanish Peaks region.....H, Ann 10, p 306; H, Bull, vol III, No 3, p 728
Twin Lakes.....W, III, p 442; H, Ann 7, p 52
Uncompahgre Plateau.....H, Ann 9, p 42
western part of Utah and.....H, Atlas, sheet viii
Yampa River region.....H, Ann 10, p 378
(See, also, pp 61, 64 of this bulletin.)
of Cordilleran region.....K, Atlas
of Great Basin.....K, v, p 1
of Iceland, southern Geyser areas.....H, Ann 12, II, p 304
of Idaho, Bear Lake region.....H, Ann 11, p 588
Blackfoot Basin.....H, Ann 11, p 564
Cliff Lake.....H, Ann 6, p 61
Henry Lake, vicinity of.....H, Ann 6, p 56
portions of Utah, Wyoming, and.....H, Ann 12, map case
of Wyoming, Montana, and. (See p 36 of this bulletin.)
of Wyoming, Utah, and.....H, Ann 11, p 324; H, Ann 12, I, p 270; see, also, p 36 of this bulletin
of Wyoming, Utah, and (land classification).....H, Ann 12, map case
Portneuf region.....H, Ann 11, p 566
Snake River, sources of....H, Ann 6, p 255; see, also, p 37 of this bulletin
soda springs on Bear River.....H, Ann 11, p 590
(See, also, pp 61, 64 of this bulletin.)
of Montana, Clark Fork, vicinity of.....H, Ann 6, p 47
Madison, Gallatin, and Upper Yellowstone basins. (See p 36 of this bulletin.)
portions of Wyoming, Idaho, and. (See p 37 of this bulletin.)
of Nevada.....H, Bull, vol VI, No 2, p 256
Lake Bonneville. (See p 65 of this bulletin.)
Lake Tahoe region. (See p 65 of this bulletin.)
portions of California, Arizona, and.....W, 1871, p 96
of Utah, Arizona, and.....W, Uncl 2, at end
southeastern. (See p 65 of this bulletin.)
southwestern, and Colorado, southern.....W, 1876, p 72
Washoe district.....W, 1879, p 188; see, also, p 65 of this bulletin
(See, also, pp 61, 64 of this bulletin.)
of Nevada Basin.....K, Atlas
of Nevada Plateau.....K, Atlas
of New Mexico, northern, and Colorado, south-central.....H, Atlas, sheet x
northwestern, parts of Colorado, Utah, Arizona, and.....H, Atlas, sheet ix
portions of Colorado, Utah, Arizona, and, showing locations of ancient ruins and modern pueblos.....H, Ann 10, p 453; H, Bull, vol II, No 1, p 46
southwestern. (See p 65 of this bulletin.)

Map, topographic, of New Mexico, Portolita Peak W, I, p 356
of New Mexico. (See, also, pp 62, 64 of this bulletin.)
of New Zealand, geyser and hot spring areas H, Ann 12, II, p 313
of North America, zoo-geographical H, Ann 12, I, p 593
of Oregon, Klamath River, headwaters of Eth, II, pt 1, frontispiece
(See, also, p 62 of this bulletin.)
of South Dakota, Black Hills HP, Atlas
of Texas, El Paso, vicinity of W, 1879, p 81
of United States W, I, p 436; H, Bull, vol II, No 3, p 226; H, Miscl 1 (4th ed), p 164
showing distribution of Hessian fly, wheat midge, chinch bug, northern army worm, cotton army worm, joint worm H, Ann 9, p 810
hot-spring localities W, III, p 148
land grants AL, pocket
rainfall, amount of AL, pocket
Rocky Mountain locust, distribution of H, Uncl 14, frontispiece
migration of, in 1874 and 1876 H, Uncl 14, p 152
surveys, progress of W, 1879, p 140
of Utah HP, Atlas
Bear Lake region H, Ann 11, p 588
Beaver Range and vicinity W, 1872, p 10
Henry Mountains HM, at end
high plateaus HP, Atlas
Lake Bonneville. (See p 65 of this bulletin.)
Ogden and vicinity W, II, p 471
Pioche W, III, p 258
portion of Arizona, Nevada, and W Uncl 2, at end
of Colorado, Arizona, New Mexico, and, showing location of ancient ruins H, Ann 10, p 453; H, Bull, vol. II, No 1, p 46
showing locations of modern pueblos H, Ann 10, p 453
of Colorado, northwestern, and H, Atlas, sheet v
of Colorado, western, and H, Atlas, sheet viii
of Idaho, Wyoming, and H, Ann 12, I, p 270; see, also, p 36 of this bulletin
showing land classification H, Ann 12, map case
Salt Lake Basin K, Atlas
showing irrigable and timber lands AL, pocket
Sierra La Sal H, Ann 9, p 60
southeastern HP, Atlas
parts of Colorado, New Mexico, Arizona, and H, Atlas, sheet ix
(See, also, pp 62, 65 of this bulletin.)
of Washington, showing distribution of Indian tribes Eth, I, pocket
of western States and Territories K, III, Atlas, pl 1; W, 1872, p 43; W, 1873, p 12; W, 1874, p 130; W, 1875, p 22; W, 1876, p 36; W, 1877, p 1244; W, 1878, p 38; W, 1880, p 40; W, 1881, p 2808; W, 1882, p 2824
showing public land, Indian reservations, areas surveyed, etc ... W, I, p 412
of Wyoming, Bear River region H, Ann 11, p 588
central H, Ann 12, map case
Green River Basin K, Atlas
west side of northern portion of H, Ann 11, p 528
of southern portion of H, Ann 11, p 530
Madison, Yellowstone, and Gallatin basins. (See p 37 of this bulletin.)

Map, topographic, of Wyoming, portions of Idaho and.....H, Ann 11, p 324
of Wyoming, portions of Montana, Idaho, and. (See p 37 of this bulletin.)
portions of Utah, Idaho, and H, Ann 12, I, p 270; see, also, p 37 of this bulletin
showing land classification H, Ann 12, map case
Rocky Mountains in Colorado and.....K, Atlas
Shoshone Lake H, Ann 6, p 244
Snake River, sources of.....H, Ann 6, p 255; see, also, p 37 of this bulletin (See, also, pp 62, 65 of this bulletin.)
of Yellowstone Park H, Ann 5, p 162; H, Ann 12, II, p 490; see, also, p 37 of this bulletin
Crater Hill, springs at H, Ann 12, II, p 84
Egeria Springs, Firehole River.....H, Ann 12, II, p 186; see, also, p 37 of this bulletin
Gibbon Geyser Basin...H, Ann 12, II, p 132; see, also, p 37 of this bulletin
Lower Geyser Basin H, Ann 5, p 104; H, Ann 12, II, p 178; see, also, p 37 of this bulletin
Mammoth Hot Springs...H, Ann 12, II, p 84; see, also, p 37 of this bulletin
Mud Volcanoes, springs at H, Ann 12, II, p 106
Rustic Geyser group.....H, Ann 12, II, p 300
Shoshone Geyser Basin..H, Ann 12, II, p 278; see, also, p 37 of this bulletin
showing distribution of hot springs.....H, Ann 12, p 67
Upper Geyser Basin.....H, Ann 5, p 112; H, Ann 12, II, p 240; see, also, p 37 of this bulletin
White Mountain Hot Springs H, Ann 5, p 64
Witch Creek, hot springs on.....H, Ann 12, II, p 290; see also p 37 of this bulletin.
Yellowstone Lake.....H, Ann 5, p 101; see also p 37 of this bulletin.
Marcou (J.), notes upon the first discoveries of California and the origin of its name.....W, 1878, pp 226–229
report on the geology of a portion of southern California ...W, 1876, pp 158–172
Markágunt Plateau, Utah, geology of HP, pp 188–210
Marl, analysis of, from Missouri, Hannibal.....H, Uncl 1, p. 12
analysis of, from Wyoming, Turtle Bluffs.....K, II, p 247
Marsh (O. C.), Odontornithes, monograph on K, VII
Marsh Creek, Idaho, geology near.....H, Ann 11, pp 565–567
Marsh Creek, Wyoming, geology near.....H, Ann 11, pp 528–529
Marshall (W. L.), report of.....W, 1872, pp 47–48; W, 1874, pp 7–10; W, 1875, pp 37–40; W, 1876, pp 80–109
report on meteorology and hypsometry W, 1876, pp 150–152
results of barometric hypsometry, 1871–1875 W, II, pp 493–566
Marshall (W. L.) and Hoxie (R. L.), meteorological observations, instructions for taking W, Uncl 10; W, Uncl 12
Martinez district, Arizona, notes on.....W, 1871, p 56
Marvine (A. R.), Gold Hill mining region; its position and general geology H, Ann 7, pp 685–687
report on geology of Middle Park, Colorado.....H, Ann 7, pp 83–192
report on geology of route from St. George, Utah, to Gila River, Arizona W, III, pp 189–225
Marvine, Mount, Utah, geology of HP, p 269
Maryatt (W. W.), report of.....W, 1872, pp 45–47
Maryatt (W. W.), Safford (T. H.), Kampf (F.), and Clark (J. H.), astronomical determinations in Nevada, Utah, Montana, Wyoming, Nebraska, Colorado, and New Mexico, 1872–1874 W, II, pp 1–491

Matthews (W.), ethnography and philology of the Hidatsa Indians.....H, Miscl 7
Mayas, graphic system and ancient records of.....Eth, v, pp xvii–xxxvii
(See, also, Ethnology and archæology.)
Maynard district, Arizona, notes on.....W, 1871, p 54
Meadow Lake district, California, notes on.....W, 1878, pp 81–82
Medicine Bow Range, Colorado–Wyoming, Archean rocks of.....K, I, pp 28–36
geology of.....K, II, pp 94–111
Paleozoic rocks of.....K, I, p 136
Medicine Bow River, Wyoming, geology of valley of.....K, II, pp 142–143
Meek (F. B.), descriptions and illustrations of fossils from Vancouver and Sucia islands; and other northwestern localities.....H, Bull, vol II, No 4, pp 351–374
lists of fossil from Utah, with some notes.....K, III, pp 459–466
note on some fossils from near the eastern base of the Rocky Mountains...H, Bull, vol I, ser 2, No 1, pp 39–47
notes on the new genus Uintacrinus Grinnell..H, Bull, vol II, No 4, pp 375–378
notice of a very large Goniatite from eastern Kansas.....H, Bull, vol I, ser 2, No 6, p 445
paleontology of Fortieth Parallel region.....K, IV, pp 1–197
preliminary list of the fossils collected by Doctor Hayden's expedition of 1871, in Utah and Wyoming Territories, with descriptions of a few new species.....H, Ann 5, pp 373–377
preliminary paleontological report by.....H, Ann 4, pp 287–318
preliminary paleontological report, consisting of lists and descriptions of fossils, with remarks on the ages of the rocks in which they were found.....H, Ann 6, pp 429–518
report on the invertebrate Cretaceous and Tertiary fossils of the Upper Missouri country.....H, Mon IX
report on the paleontology of Nebraska, with some remarks on the Carboniferous rocks of that district.....H, Uncl 1, pp 83–245
Melaphyre of Nevada, Virginia Range, microscopic petrography of..K, VI, pp 103–106
thin section of, from Nevada, Virginia Range.....K, VI, pl 4
Mephitinæ, cranial and dental characters of.....H, Bull, vol I, ser 2, No 1, pp 7–15
(See, also, Vertebrates.)
Meridian Ridge, Wyoming, geology of.....H, Ann 11, pp 536–537
Meridional Valley, Wyoming, geology of.....H, Ann 11, pp 539–540
Merriam (C. H.), report on mammals and birds collected in 1872.....H, Ann 6, pp 661–715
Mesa Verde, Colorado, geology of.....H, Ann 9, pp 253–257
Mesozoic rocks of Colorado, central.....W, III, pp 378–409
of Colorado, Eagle, Grand, and Gunnison rivers.....H, Ann 8, pp 120–139
Grand River district.....H, Ann 9, pp 80–92; H, Ann 10, pp 178–181
northwestern.....H, Ann 10, pp 26–32
of Fortieth Parallel area.....K, I, pp 249–357
of Idaho, eastern.....H, Ann 11, pp 621–629
eastern, and Wyoming, western.....H, Ann 11, pp 491–497
of New Mexico, northern.....W, IV, pt II, pp 1–25
of Utah, Grand River district.....H, Ann 9, pp 80–92; H, Ann 10, pp 178–181
of Wyoming, Sweetwater Valley.....H, Ann 11, pp 105–109
western.....H, Ann 11, pp 621–629
and Idaho, eastern.....H, Ann 11, pp 491–497
Wind River Range, vicinity of.....H, Ann 11, pp 80–88
(See, also, Cretaceous; Jurassic; Triassic.)
Mesozoic vertebrata of New Mexico.....W, IV, pt II, pp 26–36b

Mesozoic and Cenozoic rocks of Green River region, paleontological characteristics of H, Bull, vol III, No 3, pp 625–629
Mesozoic and Cenozoic Unionidæ of North America, comparison with living species H, Bull, vol III, No 3, pp 615–624
Metamorphic rocks of Colorado, central W, III, pp 343–355
of Colorado, Front Range H, Ann 7, pp 137–144
San Juan region H, Ann 8, pp 187–192; H, Ann 9, pp 268–276
Sangre de Cristo Range H, Ann 9, pp 110–113
of Fortieth Parallel region, character and distribution of K, I, pp 101–107
of Wyoming, Rawlings Peak, vicinity of H, Ann 11, p 119
Sweetwater Valley H, Ann 11, pp 98–101
Wind River Range H, Ann 11, pp 66–70
Meteorological conditions of Mohave Desert, California W, 1876, pp 152–157
Meteorological observations in Colorado and Montana in 1873 H, Miscl 6
in Nevada, southern and southeastern W, 1869, pp 50–52
in Utah, Idaho, and Montana in 1872 H, Miscl 2
in Wyoming H, Ann 4, pp 488–501
instructions for taking W, Uncl 10; W, Uncl 12
Meteorology of Great Basin, notes on K, V, pp xvii–xxii
of Yellowstone region H, Ann 5, pp 501–524
Meteorology and hypsometry, methods of W, 1875, pp 47–54
Mexico, springs, thermal, of H, Ann 12, II, p 327
Mica-schist of Black Hills, petrography of BH, pp 476–483
thin sections of, from Nevada, Humboldt Range and Spruce Mountain K, VI, pl 2
Michigan, birds of, annotated list of H, Bull, vol V, No 3, pp 481–497
Microscopic petrography of Black Hills BH, pp 469–527
of Fortieth Parallel region K, VI
Middle Park, Colorado, eruptive mountains near H, Bull, vol III, No 3, pp 552–553
geology of H, Ann 3, pp 81–86; H, Ann 7, pp 83–192
topographic features of H, Ann 9, pp 391–398
Military posts, altitudes of W, Uncl 16, pp 127–128
Milling and mining in Nevada, western K, III, pp 295–319
Mimbres silver mining district, New Mexico, notes on W, 1879, p 194
Mineral Hill district, Nevada, notes on W, 1871, pp 35–36
Mineral resources of Black Hills BH, pp 223–324
Mineralogy of Nevada H, Bull, vol IV, No 3, pp 731–745
Mineralogy and lithology of portions of Nevada and California W, 1878, pp 184–185
Minerals, catalogue of, collected by A. C. Peale [1872] H, Ann 6, pp 179–182
of Colorado, catalogue of H, Ann 9, pp 226–235; H, Ann 10, pp 135–159
South Park district H, Ann 7, pp 267–270
of Comstock lode K, III, pp 75–76
of Wyoming, Sweetwater district H, Ann 11, pp 157–158
Mines and minerals of Colorado and New Mexico H, Ann 3, pp 103–130; H, Ann 1–3, pp 201–228
Mining in western Territories W, I, pp 179–181
in Fortieth Parallel region K, III
Mining and milling in Nevada, western K, III, pp 295–319
Mining districts in Fortieth Parallel region K, III, pp 1–9
Minnesota, elevations in H, Miscl 1 (3d ed), pp 8–9; H, Miscl 1 (4th ed), pp 79–85
locusts in H, Ann 9, pp 617–621; H, Uncl 14, pp 80–87, App, pp 3–12
law regarding destruction of H, Uncl 9, pp 11–12
physical geography and agricultural resources of Dakota, Nebraska, and H, Ann 6, pp 273–313

Minot (C. S.), report on the fine anatomy of the locust.....H, Uncl 14, pp 273-279
Miocene fossils, Canidæ and Nimravidæ H, Bull, vol VI, No 1, pp 165-181
faunæ of Oregon, observations on H, Bull, vol V, No 1, pp 55-69
plants of Western Territories H, Mon VIII, pp 219-278
Rodentia of North America, review of.....H, Bull, vol VI, No 2, pp 361-386
vertebrata of Colorado.....H, Ann 7, pp 461-518
Miocene rocks of Fortieth Parallel region K, I, pp 408-424
Missouri, elevations in....H, Miscl 1 (3d ed), pp 5-6; H, Miscl 1 (4th ed), pp 85-91
locusts in.....H, Uncl 14, pp 64-68, App, pp 83-84
law regarding destruction of.....H, Uncl 9, p 9
Missouri River, geological sections near headwaters of, notes on H, Bull, vol II, No 3, pp 197-209
Rocky Mountains near, period of elevation of.....H, Uncl 16, pp 9-13
tributaries of upper.....LOR, 1868, pp 225-229; H, Ann 2, pp 72-76
Missouri River region, birds of H, Miscl 3
explorations in BH, pp 5-21
Missouri and Yellowstone rivers, geology about headwaters of, sketch of H, Uncl 16, pp 21-29
Missouri Valley, geography of LOR, 1868, pp 220-229; H, Ann 2, pp 67-76
geology of H, Ann 4, pp 85-188
Mohave Desert, California, meteorological conditions of.....W, 1876, pp 152-157
physical and agricultural features of W, 1876, pp 216-219
vegetation of, geographical distribution of.....W, 1876, pp 222-224
Mokelumne Valley region, California, reconnaissance in.....W, 1879, pp 254-258
Mollusca, reports on...H, Ann 4, pp 467-469; H, Bull, vol I, ser 2, No 2, pp 125-142
(See, also, Invertebrates.)
Mollusca, alpine, of Colorado H, Ann 7, p 542
(See, also, Invertebrates.)
Mollusks, terrestrial, collected in Colorado, list of H, Ann 7, p 523
(See, also, Invertebrates.)
Mollusca, terrestrial and fluviatile, collected in portions of Colorado, Utah, New Mexico, and Arizona W, V, pp 923-954
(See, also, Invertebrates.)
Mollusca fossil, of Colorado, report on.....H, Ann 8, pp 389-410
of Cretaceous of Colorado.....H, Ann 7, pp 455-456
of lacustrine deposits of Nebraska, list of H, Ann 8, pp 266-269
of Laramie group, distribution of.....H, Bull, vol IV, No 3, pp 721-724
of Tertiary of Colorado, Utah, and Wyoming H, Ann 12, I, pp 41-48
(See, also, Invertebrates, fossil.)
Monell (J.) and Riley (C. V.), notes on the Aphididæ of the United States, with descriptions of species occurring west of the Mississippi..H, Bull, vol V, No 1, pp 1-32
Monitor district, California, notes on W, 1878, pp 87-88
Monohammas pine, description of.....H, Ann 10, pp 528-531
(See, also, Plants.)
Montana, agriculture in H, Ann 5, pp 248-269
astronomical determinations in Wyoming, Nebraska, Colorado, New Mexico, Nevada, Utah, and.....W, II, pp 1-491
birds of Dakota and, along forty-ninth parallel, field notes on.....H, Bull, vol IV, No 3, pp 545-661
Bozeman, astronomical determinations at.....W, II, pp 371-384
meteorological observations at.....H, Miscl 2, pp 47-59
Clark Fork, geology on.....H, Ann 6, pp 46-48
climate of, notes on H, Ann 6, pp 809-812

Montana, elevations in.....H, Bull, vol v, No 3, pp 458; H, Miscl 1 (3d ed), p 15; H, Miscl 1 (4th ed), pp 92–93
explorations in.....H, Ann 5
in parts of Idaho, Wyoming, Utah, and, for year 1872.....H, Ann 6
fishes of Dakota and, collected in 1873 and 1874, report on.....H, Bull, vol iv, No 4, pp 777–799
Fort Ellis, geology between Fort Hall, Idaho, and.....H, Ann 5, pp 27–44
geology between Gardiner River and.....H, Ann 6, pp 108–125
Gallatin River, geology near.....H, Ann 5, pp 44–49
Gallatin Valley and Canyon, geology of.....H, Ann 6, pp 26–28, 76–81
Gardiner River, geology between Fort Ellis and.....H, Ann 6, pp 108–125
geological sections near headwaters of Missouri and Yellowstone rivers, notes on.....H, Bull, vol ii, No 3, pp 197–209
Helena, geology between Three Forks and.....H, Ann 6, pp 81–82
Hemiptera collected in Dakota and, in 1873–74.....H, Bull, vol iv, No 2, pp 503–512
herpetology of Dakota and.....H, Bull, vol iv, No 1, pp 259–291
Judith River region, geology of.....H, Bull, vol iii, No 3, pp 565–577
Lepidoptera collected in, in 1874, discussion of..H, Bull, vol iv, No 2, pp 513–517
locusts in.....H, Ann 9, pp 623–625; H, Uncl 14, pp 92–96, 153–156, App, pp 248–253
Madison River, geology along.....H, Ann 6, pp 160–167
meteorological observations in Colorado and.....H, Miscl 6
in Utah, Idaho, and, in 1872.....H, Miscl 2
Missouri River, geologic sections near headwaters of, notes on.....H, Bull, vol ii, No 3, pp 197–209
Missouri and Yellowstone rivers, geology about headwaters of, sketch of..H, Uncl 16, pp 21–29
Orthoptera collected in Dakota and, in 1873, discussion of.....H, Bull, vol iv, No 2, pp 481–501
plants collected in Dakota and, along forty-ninth parallel, catalogue of..H, Bull, vol iv, No 4, pp 801–830
collected in Idaho, Utah, Wyoming, and.....H, Ann 6, pp 747–792
Rock Canyon. (See Spring Canyon.)
Spring Canyon, geology of.....H, Ann 6, pp 109–115
temperature at Fort Ellis.....H, Ann 6, p 811
Three Forks, geology between Helena and.....H, Ann 6, pp 81–82
Yellowstone River, geologic sections near headwaters of, notes on.....H, Bull, vol ii, No 3, pp 197–209
geology near.....H, Ann 5, pp 51–63, 81–92
Yellowstone and Missouri rivers, geology about headwaters of, sketch of.....H, Uncl 16, pp 21–29
Montezuma district, Nevada, notes on.....W, 1871, p 46
Montezuma Range, Nevada, Archean rocks of.....K, i, pp 87–90
geology of.....K, ii, pp 751–766
Monument Creek group in Colorado.....H, Ann 8, pp 36–37
Mopung Hills, Nevada, geology of.....K, ii, pp 733–737
Mora River region, New Mexico, geology of.....W, iii, Supp, pp 283–312
Mora Valley, New Mexico, geology of..H, Ann 3, pp 59–61; H, Ann 1–3, pp 159–161
Morainal deposits in Colorado, Arkansas Valley.....H, Ann 7, pp 51–57
in Uinta Mountains.....UM, pp 171–172
Moraines in Colorado, Arkansas Valley, upper.....H, Ann 8, pp 47–53
Moreno Valley, New Mexico, geology of, notes on..H, Bull, vol iii, No 4, pp 289–296
Morey district, Nevada, notes on.....W, 1871, p 38

Morgan (L. H.), houses and house life of the American aborigines.....Eth, IV
Mormons in Utah and Nevada.....W, I, pp 174–177
Morrison (C. C.), notice of the pueblo Pintado and of other ruins in the Chaco Canyon.....W, VII, pp 366–369
report of.....W, 1876, pp 136–147; W, 1877, pp 1273–1278; W, 1878, pp 131–139
Mortars and pestles from graves in southern California.....W, VII, pp 70–92
(See, also, Ethnology and archæology.)
Moths, descriptions of new, with partial catalogue of Noctuæ.....H, Bull, vol VI, No 3, pp 563–578
new species collected in Maine, with notes on noxious species and remarks on classification.....H, Bull, vol VI, No 3, pp 579–591
of Colorado, geographical distribution of.....H, Ann 7, pp 543–559
of North America, description of, with a preliminary catalogue of the species of Hadena and Polia.....H, Bull, vol VI, No 2, pp 257–277
(See, also, Invertebrates.)
Moth, Cranberry, description of.....H, Ann 10, p 522
(See, also, Invertebrates.)
Moths, geometrid or Phalenidæ of the United States, monograph on.....H, Mon X
(See, also, Invertebrates.)
Moths, noctuid, collected in Colorado in 1875, notes on.....H, Bull, vol III, No 1, pp 115–120
(See, also, Invertebrates.)
Moths, tineid, collected in Colorado in 1875, notes on.....H, Bull, vol III, No 1, pp 143–145
(See, also, Invertebrates.)
Mound builders, houses of.....Eth, IV, pp 198–221
(See, also, Ethnology and archæology.)
Mounds, ancient, of Dakota.....H, Ann 6, pp 655–658
(See, also, Ethnology and archæology.)
Mount. See next word of name.
Mountains, elevation of.....H, Bull, vol V, No 3, pp 465–469; H, Miscl 1, pp 34–35; H, Miscl 1 (3d ed.), pp 22–25; H, Miscl 1 (4th ed), pp 112–133; W, Uncl 16, pp 129–142
Mountains, eruptive, in Colorado, on a peculiar type of.....H, Bull, vol III, No 3, pp 551–564
Mud, analysis of, from California, Colorado River.....W, 1876, p 220
analysis of, from Egypt, Nile River.....W, III, pp 577, 578; W, VI, p 30; W, 1876, p 220
from New Mexico, Rio Grande.....W, VI, p 30; W, 1876, p 220
Rio Grande del Norte.....W, III, pp 577, 578
Mud, pink, analysis of, from Yellowstone Park.....H, Ann 6, p 146
Muddy Valley, Colorado, geology of.....H, Ann 7, pp 178–184
Mudge (B. F.), notes on the Tertiary and Cretaceous periods of Kansas..H, Ann 9, pp 277–294; H, Bull, vol II, No 3, pp 211–221
Musci of the southwest.....W, VI, pp 341–351
(See, also, Plants.)
Musical instruments, of southern California, made of bones.....W, VII, pp 234–238
(See, also, Ethnology and archæology.)
Mustelidæ, monograph of.....H, Miscl 8
(See, also, Vertebrates.)
Myriopoda of Colorado.....H, Ann 7, p 607
(See, also, Invertebrates.)
Naas language, vocabulary of.....Eth, I, pp 143–153
(See, also, Ethnology and archæology.)

Nacimiento Desert, New Mexico, geology of.....W, 1875, pp 103–106
Nasua, character distribution, etc., of.....H, Bull, vol v, No 2, pp 153–174
(See, also, Vertebrates.)
Nebraska, astronomical determinations in Colorado, New Mexico, Nevada, Utah, Montana, Wyoming, and.....W, II, pp 1–491
birds of, notes on food of.....H, Uncl 14, App, pp 13–62
building materials in.....H, Uncl 1, pp 72–79
coal in...LOR, 1867, pp 134, 137, 142–143, 154–155; H, Ann 1, pp 13, 17, 22–23, 36
Cretaceous and Tertiary formations of Kansas and, fossil plants of....H, Ann 4, pp 370–385
elevations in.....H, Miscl 1 (3d ed), p 12; H, Miscl 1 (4th ed), pp 94–95
explorations in.....LOR, 1867, pp 128–181, H, Ann 1, pp 5–64
geology of.....H, Uncl 1, pp 7–79
north of Platte River.....LOR, 1867, pp 163–166; H, Ann 1, pp 45–48
locusts in.....H, Ann 9, pp 610–615; H, Uncl 14, pp 74–77, App, pp 117–133
Niobrara River, course and character of.....LOR, 1868, pp 227–229; H, Ann 2, pp 73–76
North Platte, astronomical determinations at.....W, II, pp 449–458
Omaha, geology between Cheyenne, Wyoming, and.....H, Ann 4, pp 98–112
paleontology of eastern.....H, Uncl 1, pp 81–245
peat in.....H, Uncl 1, pp 69–72
physical geography and agricultural resources of Minnesota, Dakota, and....H, Ann 6, pp 273–313
salt basins of Lancaster County.....LOR, 1867, pp 130–131; H, Ann 1, pp 8–10
sand hills of, description of.....H, Ann 4, pp 108–110
shells of, catalogue of land and fresh-water....H, Bull, vol III, No 3, pp 697–704
Sidney Barracks, astronomical determinations at.....W, II, pp 417–432
superficial deposits of.....H, Ann 8, pp 243–269
trees, fruit and forest, in cultivation of.....LOR, 1867, pp 131–133, 135–136; H, Ann 1, pp 10–12, 14–16
(See, also, Miocene; Pliocene.)
Nephiline-basalt, analysis of, from Colorado, Navesink Peak.....K, II, p 178
Neuroptera and pseudo-Neuroptera collected in Colorado, report on.....H, Ann 7, pp 571–606
collected in portions of Colorado, New Mexico, and Arizona.....W, V, pp 909–922
(See, also, Invertebrates.)
Nevada, Alida district, notes on.....W, 1871, p 47
Antelope district, notes on.....W, 1871, p 39
Antelope Hills, geology of.....K, II, pp 483–486
astronomical determinations in Utah, Montana, Wyoming, Nebraska, Colorado, New Mexico, and.....W, II, pp 1–491
astronomical observations in.....W, 1874, pp 24–55
Augusta Mountains, geology of.....K, II, pp 649–659
granite of.....K, I, pp 79–80
batrachians of. See Reptiles and batrachians.
Battle Mountain district, note on.....K, III, pp 317–319; W, 1871, p 40
Battle Mountains, geology of.....K, II, pp 666–672
Belmont, mining at.....K, III, pp 394–404
birds of, annotated list of.....H, Bull, vol VI, No 2, pp 203–256
bibliography of.....H, Bull, vol VI, No 2, pp 252–256
collected in California, Oregon, and.....W, 1879, pp 282–335
in Utah and.....W, Uncl 4, pp 5–33

Nevada, birds of, collected in portions of California, Utah, Colorado, New Mexico, Arizona, and W, v, pp 131–507
birds observed near Carson City W, 1877, pp 1307–1322
of portions of California and, preliminary report on W, 1878, pp 185–186
Black Rock Mountains, geology of K, II, pp 790–797
Bull Run district, notes on W, 1871, p 34
Carson City, birds observed near W, 1877, pp 1307–1322
Carson Desert, geology of K, II, pp 744–751
Carson Valley, geology of W, 1877, pp 1285–1286; W, 1878, pp 168–173
Castle Dome district, notes on W, 1876, pp 60–61
Coleoptera collected in portions of Utah, California, Colorado, New Mexico, Arizona, and W, v, pp 809–827
Colorado district, notes on W, 1876, pp 61–62
Columbus district, notes on W, 1871, p 48
Comstock lode, mines of, workings of K, III, pp 97–191
ores of, treatment of K, III, pp 193–272
structure, ores, etc., of K, III, pp 37–96; W, 1877, pp 1284–1285; W, 1878, pp 145–146
Cope district, notes on W, 1871, p 34
Cortez district, mining in K, III, pp 405–407
Cortez Range, geology of K, II, pp 570–589
granite of K, I, pp 70–74
Desatoya Mountains, geology of K, II, pp 644–649
Triassic rocks of K, I, pp 282–284
Diamond district, notes on W, 1871, p 36
Diamond Range, geology of K, II, pp 549–551
East Humboldt Range, geology of K, II, pp 528–541
Egan Canyon district, geology of K, III, pp 445–449
Egan Range, geology of K, II, pp 486–489
elevations in H, Bull, vol v, No 3, pp 458–459; H, Miscl 1 (3d ed), pp 16–17; H, Miscl 1 (4th ed), pp 95–98
Ely district, notes on W, 1871, pp 42–43
Eureka district, notes on W, 1871, p 37
explorations in Arizona and W, 1871
Fish Creek Mountains, geology of K, II, pp 660–666
granite of K, I, p 80
fishes collected in California and, report on W, 1878, pp 187–205
collected in portions of Utah, California, Colorado, New Mexico, and Arizona W, v, pp 635–703
Fountain Head Hills, geology of K, II, pp 520–523
Franklin Buttes, geology of K, II, pp 491–493
granite of K, I, p 62
geology of portions of Utah, New Mexico, Arizona, and W, III, pp 227–301
Gold Mountain district, notes on W, 1871, p 47
porphyry in K, I, pp 55–56
Goose Creek Hills, geology of K, II, pp 515–517
Gosiute Range, geology of K, II, pp 502–505
granite of K, I, p 57
Granite Mountain, geology of vicinity of K, II, pp 689–712
Granite Range, geology of K, II, pp 797–800
granite of K, I, pp 93–94
Green Mountain district, notes on W, 1871, p 47
Groom district, notes on W, 1871, pp 44–45
Havallah Range, geology of K, II, pp 673–688

Nevada, Havallah Range, granite of K, I, pp 80–83
Havallah Range, Triassic rocks of K, I, pp 280–281
Hemiptera collected in portions of California, Utah, Arizona, New Mexico, Colorado, and W, v, pp 829–841
Humboldt Range, Archean rocks of K, I, pp 62–70
glaciers, extinct, of K, I, pp 475–476
Humboldt River, region north of, geology of K, II, pp 590–617
Humboldt Valley, geology of K, II, pp 740–744
Hymenoptera collected in portions of Utah, Colorado, New Mexico, Arizona, and W, v, pp 705–736
Indians of Arizona and W, 1871, pp 27–29, 74–76
of California, Arizona, and, miscellaneous ethnographic observations on H, Ann 10, pp 461–478
of southern and southeastern W, 1869, pp 35–37
invertebrate fossils of portions of Utah, Colorado, New Mexico, Arizona, and W, IV, pp 1–219
Jurassic rocks of western K, I, pp 293–295
Kamma Mountains, geology of K, II, pp 786–790
Kawsoh Mountains, geology of K, II, pp 776–774
Kinsley district, granite and Archean rocks of K, I, pp 60–62
Lake Range, geology of K, II, pp 814–816
granite rocks of K, I, pp 96–97
leeches, fresh-water, collected in portions of Utah, Colorado, New Mexico, Arizona, and W, v, pp 955–967
lithology and mineralogy of portions of California and W, 1878, pp 184–185
Little Cedar Mountains, geology of K, II, pp 512–514
locusts in H, Ann 9, pp 604–605; H, Uncl 14, pp 105–106
Lodi mining district, description of W, 1877, pp 1270–1271
Lone Mountain district, notes on W, 1871, p 35
mammals collected in portions of Utah, California, Colorado, New Mexico, Arizona, and W, v, pp 35–129
Mammoth mining district, description of W, 1877, pp 1269–1270
Mineral Hill district, notes on W, 1871, pp 35–36
mineralogy of H, Bull, vol IV, No 3, pp 731–745
mining and milling in western K, III, pp 295–319
mining districts of W, 1871, pp 34–48; W, 1872, pp 26–28; W, 1876, pp 54–55, 61–62
Montezuma district, notes on W, 1871, p 46
Montezuma Range, Archean rocks of K, I, pp 87–90
geology of K, II, pp 751–766
Mopung Hills, geology of K, II, pp 733–737
Morey district, notes on W, 1871, p 38
mountain ranges in, features of W, III, pp 240–248
Ombe Range, geology of K, II, pp 494–501
granite of K, I, pp 56–57
ornithology of portions of California and, preliminary report on W, 1878, pp 185–186
Orthoptera collected in portions of California, Arizona, Utah, Colorado, New Mexico, and W, v, pp 843–908
Pah Ute range, granite of K, I, pp 83–85
Triassic rocks of K, I, pp 278–280
Pahranagat Lake district, notes on W, 1871, pp 43–44
Pahsupp Mountains, geology of K, II, pp 801–803
granite of K, I, pp 92–93

Nevada, Pahtson Mountains, Archean rocks of K, I, pp 90–92
Pahtson Mountains, geology of K, II, pp 775–786
Palmetto district, notes on W, 1871, p 47
Peavine Mountain, Archean rocks of K, I, p 97
Peoquop Range, geology of K, II, pp 505–512
granite of K, I, pp 58–59
Piñon Range, geology of K, II, pp 551–564
Pioche, astronomical determinations at W, II, pp 75–96
plants collected in Arizona, Utah, and, list of W, Uncl 5, pp 5–19
collected in Utah, Colorado, New Mexico, Arizona and, catalogue of, with descriptions of new species W, VI, pp 53–297
of Utah and, catalogue of K, V, pp 1–496
Rattlesnake Canyon district, notes on W, 1871, p 39
reconnaissance in southern and southeastern W, 1869
Red Mountain and Silver Peak districts, notes on W, 1871, pp 48–49
Reese River, mining and milling at K, III, pp 349–408
region east of, geology of K, II, pp 627–635
reptiles and batrachians collected in Arizona, California, and .. W, 1878, pp 206–226
collected in portions of California, Utah, Arizona, New Mexico, Colorado, and W, V, pp 509–584
Reveille district, notes on W, 1871, p 42
Ruby Range, geology of K, II, pp 489–491
San Antonio district, notes on W, 1871, pp 45–46
Secret Canyon district, notes on W, 1871, p 37
Seetoya Mountains, granite of K, I, pp 74–75
Shoshone Range, geology of K, II, pp 618–624, 631–643
granite of K, I, pp 77–79
Silver Bend district, notes on W, 1871, pp 41–42
Silver Peak and Red Mountain districts, notes on W, 1871, pp 48–49
Smoky Valley Range, geology and mines of K, III, pp 393–404
Soda Lakes, description of K, I, pp 510–514
Spring Valley district, notes on W, 1871, p 39
springs, thermal, in H, Ann 12, II, pp 321–323
Star district, mining in K, III, pp 314–316
Sweetwater Mountains, geology of W, 1878, pp 173–175
Timpahute district, notes on W, 1871, pp 44
Toano group of mountains, geology of K, II, pp 517–520
Toyabe Range, geology of K, II, pp 627–631; K, III, pp 320–348
granite in K, I, pp 75–77
Triassic rocks of western K, I, pp 266–268
Trinity Mountains, mining and milling in K, III, pp 297–308
Truckee River region, geology of K, II, pp 817–853
Truckee Range, Archean rocks of K, I, pp 94–96
geology of K, II, pp 803–811
Tucubits Mountains, geology of K, II, pp 523–527
Tuscarora district, notes on W, 1871, p 35
Tyboe district, notes on W, 1871, p 40
Union mining district, descriptions of W, 1877, p 1269
Unionville, mining at K, III, pp 308–314
valleys of, short descriptions of some of the H, Ann 5, pp 271–273
vegetation in, distribution of, as affecting that of the avi-fauna H, Bull, vol VI, No 2, pp 204–208
Virginia City, astronomical determinations at W, II, pp 183–210
Virginia Range, geology of K, II, pp 824–826; K, III, pp 11–36

Nevada, Wachoe Mountains, geology of K, II, pp 476–483
Wachoe Mountains, granite of K, I, pp 59–60
Wahweah Range, geology of K, II, pp 566–569
granite of K, I, p 74
Washoe district, geology of K, III, pp 11–36
map of W, 1879, p 188
notes on W, 1876, pp 54–55
West Humboldt Range, Archean rocks of K, I, pp 85–87
geology of K, II, pp 713–731
mining in K, III, pp 308–316
Triassic rocks of K, I, pp 267–278
western, geology of eastern California and, between parallels of 39° 30′ and 38° 30′ W, 1877, pp 1285–1295
geology of portions of eastern California and W, 1878, pp 167–183
White Pine district, geology of, and mining and milling in K, II, pp 542–547; K, III, pp 409–444
notes on W, 1871, p 39
Winnemucca, astronomical determinations at W, II, pp 157–182
Winnemucca Lake region, geology of K, II, pp 801–816
Yellow Pine district, notes on W, 1871, pp 52–53
(See, also, Great Basin; Fortieth Parallel region; Basin Ranges.)
Nevada Basin, geology of K, II, pp 627–853
Nevada City, Colorado, mines at and near H, Ann 3, pp 116–118; H, Ann 1–3, pp 114–116
Nevada Plateau, augite-andesite of K, I, pp 571–577
dacite of K, I, pp 567–571
geology of K, II, pp 469–625
hornblende-andesite of K, I, pp 562–567
propylite of K, I, pp 550–557
quartz-propylite of K, I, pp 557–561
trachyte of K, I, pp 595–605
New Almaden mercury mines, California, notes on W, 1876, p 64
New Coso district, California, notes on W, 1876, pp 56–57
New Eldorado district, California, notes on W, 1876, pp 58–59
New Mexico, Abiquiu region, geology of W, 1875, pp 101–103
Acoma, pueblo at W, VII, pp 325–326
agricultural resources of eastern Arizona and western W, III, pp 573–597
of southern Colorado and northern W, 1875, pp 129–139
of south-central Colorado and north-central W, III, Supp, pp 360–388
astronomical determinations in Nevada, Utah, Montana, Wyoming, Nebraska, Colorado, and W, II, pp 1–491
in Texas and W, 1879, pp 268–270
Aztec mining district, description of W, 1876, pp 66–67
batrachians. (See Reptiles and batrachians.)
birds collected in Arizona and portions of W, 1875, pp 149–153
collected in Colorado, Utah, Arizona, Nevada, California, and W, V, pp 131–507
of eastern Arizona and western W, Uncl 4, pp 95–148
botanical notes on W, VI, pp 15–37
Canadian River region, agricultural resources of W, III, Supp, pp 374–379
geology of W, III, Supp, pp 225–282
Canadian Valley, geology of, notes on H, Bull, vol II, No 4, pp 279–285
Chaco Canyon, ruins in W, VII, pp 366–369; H, Ann 10, pp 431–449
skull from, report on H, Ann 10, pp 453–457

New Mexico, Chama River, pueblo and burial place on.....W, VII, pp 362-365
Chelly Canyon, ruins in.....W, VII, pp 372-373
Chloride mining district, notes on W, 1879, p 193
Cimarron, astronomical determinations at.....W, II, pp 403-415
Cimarron Creek region, geology of W, III, Supp, pp 231-248
climate of, notes on W, 1875, pp 111-116
climate, timber, irrigation, etc., in portions of Arizona and..W, 1875, pp 117-129
coal from..... W, III, pp 631-636
coal in Galisteo field W, III, Supp, pp 126-130
in Trinidad field W, III, Supp, pp 102-126, 389-393
Coleoptera collected in portions of California, Nevada, Utah, Colorado, Arizona, and.....W, V, pp 809-827
from Colorado, California, and, new species of.....W, 1876, pp 296-300
Diamond Creek, cliff house and cave on.....W, VII, pp 370-371
elevations in H, Miscl 1 (3d ed),p 13; H, Miscl 1 (4th ed), pp 98-101; H, Bull, vol v, No 3, pp 459-461
Eocene and Pliocene lacustrine formations of, notes on, including descriptions of certain new species of vertebrates.....W, 1874, pp 115-130
Eocene plateau of, geology of.....W, 1875, pp 88-93
eruptive rocks of Arizona and.....W, III, pp 638-651
explorations in northern.....W, 1876, pp 136-147; H, Ann 3; H, Ann 1-3, pp 103-261
fishes collected in portions of California, Nevada, Utah, Colorado, Arizona, and W, V, pp 635-703
foothills facing plains, geology of W, 1877, pp 1298-1303
Fort Bayard, astronomical work in W, 1879, pp 81-113
Fort Union, astronomical determinations at.....W, II, pp 313-335
geology near H, Ann 3, pp 58-61; H, Ann 1-3, pp 158-161
Galisteo Creek region, geology of.....W, III, Supp, pp 328-346
Gallinas Creek, geology near.....H, Ann 3, pp 61-64; H, Ann 1-3, pp 161-164
geologic and mineralogic report on portions of Colorado and..W, 1875, pp 97-116
geology of portions of Arizona and.....W, III, pp 503-567
of portions of Arizona, Utah, Nevada, and W, III, pp 227-301
gold in Placer and Cimarron mountains.....W, III, Supp, pp 398-402
Hemiptera collected in Colorado, Arizona, California, and W, 1877, pp 1322-1334
collected in portions of California, Nevada, Utah, Arizona, Colorado, and W, V, pp 829-841
human remains of ancient ruins in southwestern Colorado and northern H, Bull, vol II, No 1, pp 47-63
of Eocene plateau of northwestern.....W, 1875, pp 166-173
Hymenoptera collected in portions of Colorado, Utah, Arizona, Nevada, and W, V, pp 705-736
Indians of, houses of.....Eth, IV, pp 132-153
insect fauna, alpine, collected in Colorado and.....W, 1876, pp 301-305
invertebrate fossils of portions of Arizona, Nevada, Utah, Colorado, and..W, IV, pp 1-219
iron ore of Galisteo Creek.....W, III, Supp, pp 394-395
Las Animas River, ruins along.....W, VII, pp 347-350
Las Vegas, astronomical determinations at.....W, II, pp 385-401
leeches, fresh-water, collected in portions of Nevada, Arizona, Utah, Colorado, and.....W, V, pp 955-967
Lignitic formation in, distribution and thickness of.....H, Ann 6, pp 362-364
lithology of portions of southern Colorado and northern..W, 1877, pp 1295-1298

New Mexico, Lone mining district, notes on.....W, 1879, p 192
Los Cerillos mines, notes on.....W, 1879, p 197
mammals collected in portions of California, Nevada, Arizona, Utah, Colorado, and.....W, v, pp 35–129
Mesozoic beds of northern W, iv, pt ii, pp 1–25
Mimbres silver mining district, notes on.....W, 1879, p 194
mines and minerals of.....H, Ann 3, pp 121–125; H, Ann 1–3, pp 119–123
Mollusca, terrestrial and fluviatile, collected in portions of Utah, Colorado, Arizona, and W, v, pp 923–954
Mora River region, geology of.....W, iii, Supp, pp 283–312
Mora Valley, geology of H, Ann 3, pp 59–61; H, Ann 1–3, pp 159–161
Moreno Valley, geology of, notes on.....H, Bull, vol iii, No 4, pp 289–296
Nacimiento Desert, geology of.....W, 1875, pp 103–106
Neuroptera and pseudo-Neuroptera collected in portions of Arizona, Colorado, and.....W, v, pp 909–922
north-central, geology of south-central Colorado and.....W, iii, Supp, pp 3–420
northeastern, geology of, notes.....H, Bull, vol ii, No 4, pp 279–308
northwestern, geology of portion of.....W, 1875, pp 61–97
ornithology of portions of Arizona and, notes on W, 1875, pp 149–153
Orthoptera collected in California, Colorado, and.....W, 1876, pp 278–295
collected in California, Nevada, Utah, Arizona, Colorado, and.....W, v, pp 843–908
Pecos River, mountain ranges between La Veta Pass and the head of, geology of W, 1876, pp 199–202
Pecos Valley, agriculture in.....H, Ann 4, pp 207–208
Pinos Altos mining district, notes on.....W, 1879, p 195
Placiere Mountains, geology of....H, Ann 3, pp 66–68; H, Ann 1–3, pp 166–168
plants collected in Colorado and, catalogue of H, Ann 4, pp 484–487
collected in Nevada, Utah, Arizona, Colorado, and, catalogue of, with descriptions of new species.....W, vi, pp 53–297
of Arizona and W, iii, pp 603–609
plateau region of Arizona and, geology of W, iii, pp 542–567
pottery, implements, etc., obtained in Arizona and.....W, vii, pp 374–390
pueblo languages of, report on W, 1875, pp 180–187
Purgatory River region in Colorado and, geology of....W, iii, Supp, pp 195–224
range region in Arizona and, geology of.....W, iii, pp 507–524
reptiles and batrachians collected in portions of California, Nevada, Utah, Arizona, Colorado, and W, v, pp 509–584
Rio Grande del Norte, agriculture in valley of.....W, iii, pp 574–578
Rio Grande, upper region of, agricultural resources of..W, iii, Supp, pp 362–373
geology of W, iii, Supp, pp 313–353
Rio Grande Valley, agriculture in.....H, Ann 4, pp 204–207
geology of W, 1875, pp 64–68, 76–78
Rocky Mountains, eastern slope of, geology of.....W, 1875, pp 62–64
ruins in W, vii, pp 337–345; W, 1875, pp 174–178
in Las Animas Valley and other places.....W, 1875, pp 178–180
San Juan, pueblo of, description of.....W, vii, p 331
San Juan River, ruins of houses of Indians on.....Eth, iv, pp 154–197
Santa Fe, astronomical determinations at W, ii, pp 337–369
mines near H, Ann 3, pp 121–123; H, Ann 1–3, pp 119–121
Sierra Madre, geology of.....W, 1875, pp 78–88
Mesozoic beds of western slope of W, iv, pt ii, pp 1–13
silver near Santa Fe.....W, iii, Supp, pp 403–404
southwestern, reconnaissance in.....W, 1879, pp 237–253

New Mexico, Taos, geology near H, Ann 3, pp 70–72; H, Ann 1–3, pp 170–172
Taos, mines near H, Ann 3, p 123; H, Ann 1–3, p 119
pueblo of W, VII, pp 327–330
Taos Valley, agriculture in H, Ann 4, pp 202–204
turquois in Los Cerillos W, III, Supp, pp 403–404
Vermejo Creek region, geology of W, III, Supp, pp 248–262
Vermejo Park, geology of, notes on H, Bull, vol II, No 4, pp 296–305
vertebrates, fossil, collected in W, IV, pt II
of Eocene of, systematic catalogue of W, Uncl 9
volcanic region in Arizona and, geology of W, III, pp 525–541
New Fork of Green River, Wyoming, geology near H, Ann 11, p 526
New Zealand, springs, thermal, and geysers of H, Ann 12, II, pp 313–320
Newberry (J. S.), the ancient lakes of western America: their deposits and drainage H, Ann 4, pp 329–339
Newton (H.), geology of the Black Hills BH, pp 1–222
Nez Percés language, grammar of, notes on H, Bull, vol II, No 3, pp 271–277
(See, also, Ethnology and archæology.)
Niagara group in Idaho, eastern, and Wyoming, western H, Ann 11, pp 484–485
Nicholson (H. A.) and White (C. A.), bibliography of North American invertebrate paleontology H, Misc l 10
supplement to the bibliography of North American invertebrate paleontology H, Bull, vol V, No 1, pp 143–152
Nikutemuhk language, vocabulary of Eth, I, pp 247–265
(See, also, Ethnology and archæology.)
Nimravidæ and Canidæ of the Miocene period, descriptions of H, Bull, vol VI, No 1, pp 165–181
(See, also, Vertebrates, fossil.)
Niobrara group, distribution and character of H, Mon II, pp 16–24
fossils, vertebrate, of H, Ann 5, pp 327–347
of Black Hills BH, pp 173–174
of Colorado, south-central, and New Mexico, north-central W, III, Supp, pp 97–99
Spanish Peaks region W, 1879, p 277
of Fortieth Parallel region K, I, pp 425–431
of Kansas H, Ann 9, pp 281–289; H, Bull, vol II, No 3, pp 214–221
Missouri country, upper H, Mon IX, pp xxx–xxxiii
of Missouri River region, fossil vertebrates from H, Bull, vol III, No 3, pp 577–586
of Nebraska LOR, 1867, pp 171–172; H, Ann 1, p 54
of New Mexico, north-central, and Colorado, south-central W, III, Supp, pp 97–99
Niobrara River, course and character of ..LOR, 1868, pp 227–229; H, Ann 2, pp 73–76
Niskwalli language, dictionary of Eth, I, pp 285–361
(See, also, Ethnology and archæology.)
Noctuæ, catalogue, partial, of H, Bull, vol VI, No 3, pp 568–578
(See, also, Invertebrates.)
Noctuid moths collected in Colorado in 1875, notes on H, Bull, vol III, No 1, pp 115–120
(See, also, Invertebrates.)
Noctuidæ, descriptions of Lithophane and new H, Bull, vol V, No 2, pp 201–208
of California H, Bull, vol IV, No 1, pp 169–187
(See, also, Invertebrates.)
North America, Acrididæ of, synopsis of H, Mon V
Cretaceous flora of, review of H, Ann 8, pp 316–365

North America, Crustacea, fresh-water phyllopod, of, synopsis of..H, Ann 7, pp 613–622
fishes of fresh waters of, catalogue of.....H, Bull, vol IV, No 2, pp 407–442
fossil flora of, review of.....H, Bull, vol I, ser 2, No 5, pp 233–248
invertebrate paleontology, bibliography of.....H, Miscl 10
Lignitic formation of, distribution, age, stratigraphy, etc., of.....H, Mon VII, pp 3–31
Tertiary flora of, considered as evidence of the age of the formation.....H, Ann 8, pp 275–315
Pinnipeds of, history of.....H, Miscl 12
Rhizopods, fresh water, of.....H, Mon XII
Tertiary flora of.....H, Ann 5, pp 304–318
vertebrata, extinct, of Europe and, relations of horizons of.....H, Bull, vol V, No 1, pp 33–54
North Park, Colorado, geology of.....K, II, pp 112–129; LOR, 1868, pp 237–242; H, Ann 2, pp 85–88; H, Ann 4, pp 124–128
North Park group of Fortieth Parallel region.....K, I, pp 431–434
North Platte, Nebraska, astronomical determinations at.....W, II, pp 449–450
North Platte Valley, Wyoming, geology of.....K, II, pp 152–155
Northwest, tribes of.....Eth, I, pp 1–106
Norton (E.), report upon the collections of Formicidæ made during years 1872, 1873, and 1874.....W, V, pp 729–736
Obsidian, thin section of, from Nevada, Truckee Ferry.....K, VI, pl 8
thin section of, from Utah, Ombe Butte.....K, VI, pl 10
Odonata from the Yellowstone.....H, Ann 6, pp 727–729
(See, also, Invertebrates.)
Odontornithes, monograph on.....K, VII
(See, also, Vertebrates, fossil.)
Ogden, Utah, astronomical determinations at.....W, II, pp 7–55
geology between Fort Hall and.....H, Ann 5, pp 13–26; H, Ann 6, pp 197–207
meteorological observations at.....H, Miscl 2, pp 60–63
Ogden Canyon, Utah, Paleozoic rocks of.....K, I, pp 174–177
Ogden quartzite of Great Basin.....K, I, pp 193–195, 234–235
Ogden region, Utah, geology of.....K, II, pp 394–403
Oil, analysis of, from Colorado, Canyon City.....H, Ann 3, p 120
Okinakew language, vocabulary of.....Eth, I, pp 248–265
(See, also, Ethnology and archæology.)
Olney (S. T.), Carices of Great Basin.....K, V, pp 361–375
plants determined by.....W, Uncl 5, pp 52–54
Omaha, Nebraska, geology between Cheyenne, Wyoming, and.....H, Ann 4, pp 98–112
Ombe Mountains, Nevada, geology of.....K, II, pp 494–501
granite of.....K, I, pp 56–57
Oneata district, California, notes on.....W, 1871, p 48
Oquirrh Mountains, Utah, geology of.....K, II, pp 443–454
Ore, analyses of, from Nevada, Comstock lode.....K, III, p 80
analysis of, from Nevada, Trinity Mountains.....K, III, p 299
from Nevada, Washoe district, Kentuck, and Savage mines.....K, III, p 274
White Pine.....K, III, p 420
from Wyoming, Chugwater River.....H, Ann 4, p 14
of Comstock lode, treatment of.....K, III, pp 193–272
Oregon, astronomical work in Washington, California, and.....W, 1879, pp 265–268
birds of California, Nevada, and.....W, 1879, pp 282–335
elevations in.....H, Miscl 1 (3d ed), p 18; H, Miscl 1 (4th ed), pp 101–102

Oregon, kjökkenmöddings and graves of a former population on the coast of..H, Bull, vol III, No 1, pp 27-35
Miocene of, faunæ of, observations on.....H, Bull, vol v, No 1, pp 55-69
southern, reconnaissance in.....W, 1879, pp 214-223
The Dalles, astronomical work at.....W, 1879, pp 17-41
tribes of western Washington and northwestern.....Eth, I, pp 157-241
Ornaments of Indians of southern California.....W, VII, pp 251-262
(See, also, Ethnology and archæology.)
Ornaments, bead, employed by ancient tribes of Utah and Arizona.....H, Bull, vol II, No 1, pp 67-69
(See. also, Ethnology and archæology.)
Ornithology, bibliography of American.....H, Bull, vol v, No 2, pp 239-330; H, Bull, vol v, No 3, pp 521-1066
repository of information concerning North American.....H, Miscl 11
(See, also, Birds; Vertebrates.)
Orographic structure, types of.....UM, pp 9-18
Orography of Fortieth Parallel region.....K, I, pp 727-761
Orthoclase, analysis of, from Colorado, Bear Creek.....H, Ann 10, p 147
Orthoptera collected in California, New Mexico, and Colorado, report on..W, 1876, pp 278-295
collected in Colorado in 1875, list of.....H, Bull, vol II, No 3, pp 261-267
in Dakota and Montana in 1873, discussion of.....H, Bull, vol IV, No 2, pp 481-501
in Nevada, Utah, California, Colorado, New Mexico, and Arizona, portions of.....W, v, pp 843-908
description of new species of.....H, Ann 4, pp 263-284; H, Bull, vol I, ser 1, No 2, pp 63-71
notes on the saltatorial, of the Rocky Mountain region....H, Ann 5, pp 423-466
of Nebraska, notes on.....H, Uncl 1, pp 249-261
of Rocky Mountain region.....H, Ann 6, pp 717-725
of Tertiaries of Rocky Mountains.....H, Bull, vol I, ser 2, No 6, pp 447-449
(See, also, Invertebrates; Invertebrates, fossil.)
Ostensacken (C. R.), notice on galls collected by Lieut. W. L. Carpenter..H, Ann 7, p 567
report on Diptera collected in Colorado by Lieut. W. L. Carpenter during the summer of 1873.....H, Ann 7, pp 561-566
report upon the collection of Diptera made in portions of Colorado and Arizona during the year 1873.....W, v, pp 803-807
western Diptera, descriptions of new genera and species of Diptera from the region west of the Mississippi, and especially from California.....H, Bull, vol III, No 2, pp 189-354
Osteology of Cathartidæ.....H, Ann 12, I, pp 727-806
of Eremophila alpestris.....H, Ann 12, I, pp 627-652
of North American Tetraonidæ.....H, Ann 12, I, pp 653-726
of Speotyto cunicularia hypogæa.....H, Ann 12, I pp 593-626
Otoe Indians, condition of, notes on.....LOR, 1867, pp 151-154; H, Ann 1, pp 32-35
(See, also, Ethnology and archæology.)
Owens Lake, California, description of.....W, 1876, pp 189-190
Owiyukuts Plateau, geology of.....K, II, pp 271-275
Oyster Ridge, Wyoming, Cretaceous uplift of.....K, II, pp 250-253
geology of.....H, Ann 11, pp 533-534
Packard (A. S., jr.), description of a Lernæan Crustacean (Achtheres carpenteri) obtained by Lieut. W. L. Carpenter in 1873 in Colorado.....H, Ann 7, p 612

Packard (A. S., jr.), description of new insects....H, Ann 6, pp 739–741
description of new parasitic worms found in the brain and other parts of birds....H, Ann 6, pp 735–737
descriptions of new phyllopod Crustacea from the West....H, Bull, vol III, No 1, pp 171–185
descriptions of new species of Mallophaga collected by C. H. Merriam while in the Government Geological Survey of the Rocky Mountains....H, Ann 6, pp 731–734
insects affecting the cranberry, with remarks on other injurious insects....H, Ann 10, pp 521–531
insects inhabiting Great Salt Lake and other saline or arkaline lakes in the West....H, Ann 6, pp 743–746
monograph of the geometrid moths, or Phalenidæ of the United States....H, Mon x
monograph on the phyllopod Crustacea of North America, with remarks on the order Phyllocarida....H, Ann 12, I, pp, 295–457
on a crayfish from the Lower Tertiary beds of western Wyoming....H, Bull, vol VI, No 2, pp 391–397
on a new cave fauna in Utah....H, Bull, vol III, No 1, pp 157–169
on the geographical distribution of the moths of Colorado....H, Ann 7, pp 543–559
on the supposed ancient outlet of Great Salt Lake....H, Bull, vol I, ser 2, No 5, pp 413–414
report on the Myriapods collected by Lieut. W. L. Carpenter in 1873 in Colorado....H, Ann 7, p 607
report on the Rocky Mountain locust and other insects now injuring or likely to injure field and garden crops in the western States and Territories....H, Ann 9, pp 589–809
synopsis of the fresh-water phyllopod Crustacea of North America....H, Ann 7, pp 613–622
Pagosa Springs, Colorado, geology of....H, Ann, 9, pp 183–185
Pahranagat Lake district, Nevada, notes on....W, 1871, pp 43–44
Pahsupp Mountains, Nevada, geology of....K, II, pp 801–803
granite of....K, I, pp 92–93
Pahtson Mountains, Nevada, Archean rocks of....K, I, pp 90–92
geology of....K, II, pp 775–786
Pah-Ute Lake (Tertiary), extent of....K, I, pp 454–455
Pah-Ute Range, Nevada, granite of....K, I, pp 83–85
Triassic rocks of....K, I, pp 278–280
Palagonite, analysis of, from Galapagos, Java, and Iceland..K, I, p 417; K, II, p 770
analysis of, from Nevada, Carson River....K, II, p 769
from Nevada, Hanes station....K, I, p 417
Palagonite-tufa, thin section of, from Nevada, Hanes station....K, VI, pl 12
Paleontology, general significance of....H, Mon II, pp 7–14
(See, also, Plants, fossil; Vertebrates, fossil; Invertebrates, fossil.)
Paleozoic rocks of California, southeastern....W, 1876, p 174
of Colorado, central....W, III, pp 355–377
Eagle, Grand, and Gunnison rivers....H, Ann 8, pp 110–120
Grand River district....H, Ann 9, pp 70–79; H, Ann 10, p 178
of Fortieth Parallel area, exposures of....K, I, pp 127–248
of Idaho, Bear River Range....H, Ann 11, pp 613–621
eastern, and Wyoming, western....H, Ann 11, pp 477–490
of Nevada, Pinyon Range....K, II, pp 552–558
of Utah, Bear River region....H, Ann 11, pp 613–621

Paleozoic rocks of Utah, Grand River district..H, Ann 9, pp 70–79; H, Ann 10, p 178
of Utah, high plateaus.....HP, pp 143–148
of Wyoming, Colorado Range.....K, II, pp 29–33
Rawlings Peak, vicinity of.....H, Ann 11, pp 119–121
Sweetwater Valley.....H, Ann 11, pp 101–105
western, and Idaho, eastern.....H, Ann 11, pp 477–490
Wind River Range, vicinity of.....H, Ann 11, pp 70–80
(See, also, Carboniferous, Cambrian, etc.)
Palmetto district, Nevada, notes on.....W, 1871, p 47
Panamint district, California, notes on.....W, 1876, pp 49–51
Paragenesis in Nevada, Comstock lode.....K, III, pp 91–93
Paria amphitheater, Utah, geology of.....HP, pp 253–256
Park Province, Colorado, structure of.....UM, pp 26–29
Park Range, Colorado, Archean rocks of.....K, I, pp 36–42
geology of.....H, Ann 7, pp 39–48, 225–239; K, II, pp 130–141
topographic features of.....H, Ann 9, pp 378–381
trachyte of.....K, I, pp 582–585
Parthenogenesis in Artemia salina.....H, Ann 12, I, pp 463–466
Partzite, analysis of, from California, Blind Spring district.....W, 1876, p 185
Pass Creek, Wyoming, geology near....LOR, 1868, pp 246–247; H, Ann 2, pp 93–94
Passer domesticus, status of, in America, with special reference to the Western States and Territories.....H, Bull, vol v, No 2, pp 175–193
(See, also, Vertebrates.)
Passes, elevations of.....H, Bull, vol v, No 3, pp 469–470; H, Miscl 1, pp 35–36; H, Miscl 1 (3d ed), pp 26–27; H, Miscl 1 (4th ed), pp 134–137; W, Uncl 16, pp 181–190
in Colorado, central.....W, III, pp, 310–318
Patton (W. H.), generic arrangement of the bees allied to Melissodes and Anthophora.....H, Bull, vol v, No 3, pp 471–479
list of a collection of aculeate Hymenoptera made by Mr. S. W. Williston in northwestern Kansas.....H, Bull, vol v, No 3, pp 349–370
the American Bembecidæ, tribe Stizini.....H, Bull, vol v, No 3, pp 341–347
Paunsagunt Plateau, Utah, geology of.....HP, pp 251–253
Peale (A. C.), geological report on Grand River district.....H, Ann 9, pp 31–101; H, Ann 10, pp 161–185
geology of Green River district.....H, Ann 11, pp 509–646
geology of South Park.....H, Ann 7, pp 193–273
Juratrias section of southeastern Idaho and western Wyoming.....H, Bull, vol v, No 1, pp 119–123
Laramie group of western Wyoming and adjacent regions.....H, Bull, vol v, No 2, pp 195–200
mines noted by South Park division of United States Geological Survey, 1873.....H, Ann 7, pp 301–305
on a peculiar type of eruptive mountains in Colorado.....H, Bull, vol III, No 3, pp 551–564
report of, for 1874.....H, Ann 8, pp 75–180
report of, for 1872.....H, Ann 6, pp 97–187
thermal springs of Yellowstone National Park.....H, Ann 12, II, pp 63–453
Pealite, analyses of, from Yellowstone Park.....H, Ann 12, II, pp 413–415
Pearlite, thin section of, from Nevada, Pahtson Mountains.....K, VI, pl 9
Pearlitic rock, thin section of, from Nevada, Montezuma Range.....K, VI, pl 9
Peat in Nebraska.....H, Uncl 1, pp 69–72
Peavine Mountain, Nevada, Archean rocks of.....K, I, p 97

Pecos River, New Mexico, mountain ranges between La Veta Pass and the head of, geology of W, 1876, pp 199–202
Pecos Valley, New Mexico, agriculture in H, Ann 4, pp 207–208
Pennell, Mount, Utah, geology of HM, pp 35–38
Peoquop Range, Nevada, geology of K, II, pp 505–512
granite of K, I, pp 58–59
Permian rocks of Colorado, Eagle and Grand Rivers H, Ann 8, pp 117–120
of Texas, Batrachia and Reptilia of, some new ... H, Bull, vol VI, No 1, pp 79–82
of Wyoming, Wind River Range, vicinity of H, Ann 11, pp 78–79
Pestles and mortars from graves in southern California W, VII, pp 70–92
(See, also, Ethnology and archæology.)
Petrographic notes on the volcanic rocks of Yellowstone Park H, Ann 12, II, pp 57–62
Petrography, microscopic, of Black Hills BH, pp 469–527
of Fortieth Parallel region K, VI
Petzite, analysis of, from Colorado H, Ann 10, p 148
Phonolite of Black Hills, petrography of BH, pp 492–494, 503–505
thin section of, from Black Hills BH, p 528
Phalenidæ of the United States, monograph on H, Mon X
(See, also, Invertebrates.)
Photographs, descriptive catalogue of H, Miscl 5 (2 editions)
of Indians; catalogue of H, Miscl 5 (1st ed), pp 67–83; H, Miscl 9
Phyllopod Crustacea of North America, monograph of H, Ann 12, I, pp 295–457
of the West, descriptions of new H, Bull, vol III, No 1, pp 171–185
(See, also, Invertebrates.)
Physidæ and Unionidæ, fossil, collected in Montana in 1876, descriptions of .. H, Bull, vol III, No 3, pp 599–602
(See, also, Invertebrates, fossil.)
Physiological effects of a very hot climate W, 1876, pp 328–330
Pickerinzite, analysis of, from Colorado, Monument Park H, Ann 10, p 148
Pierre group. (See Fort Pierre group.)
Pierres Hole, Idaho, geology near H, Ann 11, pp 438–441
Pierres Mountains, Idaho, geology of H, Ann 11, pp 425–432
Pigs, solid-hoofed, apparently established in Texas, discussion of H, Bull, vol IV, No 1, pp 295–297
(See, also, Vertebrates.)
Pinal Mountains, Arizona, mines in, notes on W, 1871, pp 56–59
Pine, insects injuring H, Ann 10, pp 527–531
Pine timber, destruction of, in Rocky Mountains H, Ann 7, pp 538–539
Piney Creek, Wyoming, geology near H, Ann 11, p 529
Pinnipeds, history of North American H, Miscl 12
(See, also, Vertebrates.)
Piñon Range, Nevada, geology of K, II, pp 551–564
Pinos Altos mining district, New Mexico, notes on W, 1879, p 195
Pioche, Nevada, astronomical determinations at W, II, pp 75–96
Pipes, stone, from graves of southern California W, VII, pp 125–134
(See, also, Ethnology and archæology.)
Piskwaus language, vocabulary of Eth, I, pp 249–265
(See, also, Ethnology and archæology.)
Placers in Idaho, Iowa Gulch H, Ann 11, pp 404–405
Placerville district, California, notes on W, 1878, pp 82–84
Placiere Mountains, New Mexico, geology of H, Ann 3, pp 66–68; H, Ann 1-3, pp 166–168

Plagopterinæ and ichthyology of Utah W, Uncl 8
(See, also, Vertebrates.)
Plains. (See Great Plains.)
Plants; Agrostis, North American species of, preliminary list and descriptions of H, Bull, vol VI, No 1, pp 149–164
collected in Dakota and Montana in 1873 and 1874, along forty-ninth parallel, catalogue of H, Bull, vol IV, No 4, pp 801–830
in Colorado, Wyoming, and New Mexico, catalogue of .. H, Ann 4, pp 472–487
in Nevada, Arizona, and Utah, list of W, Uncl 5, pp 5–19
in Nevada, Utah, Colorado, New Mexico, and Arizona, catalogue of, with descriptions of new species W, VI, pp 53–297
in Idaho, Utah, Montana, and Wyoming H, Ann 6, pp 747–792
near Yellowstone River, in 1871, catalogue of H, Ann 5, pp 477–498
ferns of the Southwest W, VI, pp 299–340
Musci of the Southwest W, VI, pp 341–351
of Arizona and New Mexico, geographical distribution of W, III, pp 603–605
of medical and technical use, list of W, III, pp 607–609
of Black Hills BH, pp 529–537
of California, Mohave Desert, geographical distribution of .. W, 1876, pp 222–224
of Colorado W, VI, pp 1–14
of central, preliminary report on and list of W, Uncl 5, pp 23–62
southwestern H, Bull, vol II, No 3, pp 227–248
synopsis of H, Mis 4
of Great Basin K, V
of New Mexico W, VI, pp 15–37
of Rocky Mountain region H, Bull, vol VI, No 1, pp 1–77
pine, Monohammus, description of H, Ann 10, pp 528–531
Plants and agriculture of portions of southern California, report on W, 1876, pp 202–213
Plants, fossil, enumeration and description of, from specimens obtained in 1870 and 1871 H, Ann 5, pp 283–303
forest in volcanic Tertiary formation of Yellowstone Park H, Bull, vol V, No 1, pp 125–132
of Black Hills BH, pp 331–333; PBH, pp 7–9
of Colorado; Denver, Golden, Raton Pass, and Purgatory Canyon H, Ann 3, pp 96–97; H, Ann 1–3, pp 196–197
of Cretaceous of North America, review of H, Ann 8, pp 316–365
of Cretaceous and Tertiary formations of Kansas and Nebraska H, Ann 4, pp 370–385
of North America, catalogue of H, Ann 10, pp 487–520
of western Territories H, Mon VIII
illustrations of H, Uncl 15
of Dakota group, general characters and relation of H, Bull, vol I, ser 1, No 2, pp 52–62
new species of H, Bull, vol I, ser 2, No 5, pp 391–400
of western Territories H, Mon VI
of Eocene, general characters of H, Ann 6, pp 343–350
of Green River group H, Mon VIII, pp 127–217
of Lignitic formation H, Ann 7, pp 365–425; H, Ann 8, pp 275–315; H, Bull, vol I, ser 2, No 5, pp 363–389
of North America, review of H, Bull, vol I, ser 2, No 5, pp 233–248
of Primordial rocks of Arizona W, Uncl 6, pp 5–6
of Tertiary H, Ann 5, Supp

Plants, fossil, of Tertiary, distribution in different groups.....H, Ann 7, pp 378–390
of Tertiary of North America.....H, Ann 5, pp 304–318
of western Territories.....H, Mon VII
enumeration and description of.....H, Ann 6, pp 371–427
of Tertiary and Cretaceous of the western Territories.....H, Mon VIII
of Wyoming, Rock Creek.....H, Ann 3, p 95; H, Ann 1-3, p 195
preservation of, mode of.....H, Ann 4, pp 370–373
relation to actual domain of man and to our present civilization.....H, Ann 4, pp 373–377
Plateau province, invertebrate paleontology of.....UM, pp 74–135
sedimentary rocks of.....UM, pp 37–73
structure of.....UM, pp 25–26
Plateau region of Arizona and New Mexico, geology of.....W, III, pp 542–567
Pliocene rocks of Colorado, northern, vertebrate paleontology of.....H, Bull, vol I, ser 1, No 1, pp 9–28
of Fortieth Parallel region.....K, I, pp 425–443
of Kansas.....H, Ann 9, pp 278–280; H, Bull, vol II, No 3, pp 212–213
of Wyoming, plains.....K, II, pp 67–71
Pliocene and Eocene lacustrine formations of New Mexico, notes on, including descriptions of certain new species of vertebrates..W, 1874, pp 115–130
Point of Rocks group, exposures of.....UM, pp 47–49
of Uinta Mountains.....UM, pp 155–157
Polybori, monograph on.....H, Bull, vol I, ser 2, No 6, pp 451–473
(See, also, Vertebrates.)
Porter (T. C.), catalogue of plants collected in Wyoming and Colorado...H, Ann 4, pp 472–483
catalogue of plants collected near Yellowstone River in 1871.....H, Ann 5, pp 477–498
descriptions of plants collected in Nevada, Utah, Arizona, New Mexico, and Colorado.....W, VI, pp 197–204, 209–217, 221–225, 228–232, 369, 370–371, 372–373
Porter (T. C.) and Coulter (J. M.), synopsis of the flora of Colorado.....H, Miscl 4
Portneuf River, Idaho, geology near.....H, Ann 11, pp 563–567
Portneuf Range, Idaho, geology of.....H, Ann 11, pp 328, 567–569
Porphyroid, analysis of, from Nevada, Cottonwood Canyon.....K, II, p 722
Porphyry of Colorado.....H, Ann 10, p 209
of Nevada, Goose Creek Hills.....K, I, pp 55–56
Potsdam group, invertebrates of Fortieth Parallel region.....K, IV, pp 205–231
of Black Hills.....BH, pp 80–107
of Colorado, Eagle and Grand rivers.....H, Ann 8, pp 110–111
of Wyoming, Rawlings Peak, vicinity of.....H, Ann 11, p 119
Sweetwater Valley.....H, Ann 11, pp 101–102
Wind River Range.....H, Ann 11, pp 70–71
Pottery, implements, etc., obtained in New Mexico and Arizona..W, VII, pp 374–390
(See, also, Ethnology and archæology.)
Pottery of Colorado, San Juan Valley, of ancient tribes of....H, Ann 10, pp 403–408
of Colorado, southwestern.....H, Bull, vol II, No 1, pp 21–24
(See, also, Ethnology and archæology.)
Powell (J. W.), exploration of the Colorado River of the West and its tributaries.....ECR
geology of the eastern portion of the Uinta Mountains.....UM
lands of the arid region.....AL
Powers (S.), tribes of California.....Eth, III
Preuss Range, Idaho, geology of.....H, Ann 11, pp 589–590

Price (P. M.), report of W, 1875, pp 40–41
Primitive art in the Bridger Basin of southern Wyoming H, Ann 6, pp 651–653
(See, also, Ethnology and archæology.)
Primordial invertebrate fossils of Black Hills BH, pp 333–344; PBH, pp 8–11
of Southwest W, IV, pp 32–49
of Utah and Nevada W, Uncl 6, pp 6–8
Profiles of mountain ranges along the fortieth parallel K, I, p 16
Profiles, sections, and other illustrations in Rocky Mountain region H, Uncl 3
Propylite, analyses of, from Nevada, Comstock lode K, III, pp 89, 90
analysis of, from Nevada, Montezuma Range K, II, p 763
from Nevada, Ragans Valley K, II, p 679
Sheep Corral Canyon K, II, p 839
Storm Canyon K, II, p 662
Washoe, Fish Creek Mountains, Virginia Range, and near Truckee Range K, I, p 560
Virginia Range K, VI, p 116
from Utah, Sevier Plateau W, III, p 650
of Nevada, microscopic petrography of K, VI, pp 110–116
Washoe district K, III, pp 25–30
of Nevada Plateau K, I, pp 550–557
thin section of, from Nevada, Tuscarora K, VI, pl 4
Propylite and andesite, characteristics of HP, pp 108–110
Prozoic rocks of Wyoming, Sweetwater Valley H, Ann 11, pp 96–98
of Wyoming, Wind River Range H, Ann 11, p 66
Ptarmigan, white-tailed, breeding habits, nests and eggs of H, Bull, vol I, ser 2, No 5, pp 263–266
(See, also, Vertebrates.)
Public lands, organization, cost, survey, etc., of W, I, pp 405–413
Pueblo at Acoma, New Mexico W, VII, pp 325–326
(See, also, Ethnology and archæology.)
Pueblos and their inhabitants, notes on W, VII, pp 319–324
(See, also, Ethnology and archæology.)
Pueblo languages of New Mexico, report on W, 1875, pp 180–187
(See, also, Ethnology and archæology.)
Puerco group, distribution of H, Mon III, pp 4–5
vertebrata of Wasatch and Bridger groups and H, Mon III, pp 49–742
Purgatory River region, Colorado, agricultural resources of W, III, Supp, pp 379–381
geology of W, III, Supp, pp 195–224
Putnam (F. W.), Pueblo ruins and the interior tribes W, VII, pp 315–397
reports upon archæological and ethnological collections W, VII, pp 1–314
Putnam, Mount, Idaho, geology near H, Ann 11, p 328
Pyralidæ, preliminary studies on North American H, Bull, vol IV, No 3, pp 669–705
(See, also, Invertebrates.)
Pythonomorpha, discussion of Owen's paper on ... H, Bull, vol IV, No 1, pp 299–311
(See, also, Vertebrates.)
Quartz, analysis of, from Colorado, Elk Mountain K, II, p 103
Quartz-propylite, analysis of, from Nevada, Cortez Peak ... K, II, p 578; K, VI, p 119
analysis of, from Nevada, Golconda K, VI, p 118
from Nevada, Pyramid Lake region K, II, p 845
Virginia Range and vicinity of Havallah Mountain and American Flat K, I, p 560

Quartz-propylite of Nevada, microscopic petrography of K, VI, pp 117–121
of Nevada Plateau.....K, I, pp 557–561
Quartzite, analysis of, from Nevada, Antler Peak, vicinity of K, II, p 669
analysis of, from Nevada, Carico Point.....K, I, p 542
from Nevada, Pilot Peak.....K, I, p 542
from Utah, Farmington.....K, II, p 380
La Motte Peak K, II, p 324
various localities K, I, p 542
of Black Hill, petrography of.....BH, pp 471–476
Quaternary lakes of California, southeastern W, 1876, pp 177–179
Quaternary rocks of Basin Ranges W, III, p 172
of Fortieth Parallel region K, I, pp 459–529
Quebec group of Colorado, Eagle and Grand rivers H, Ann 8, pp 111–113
of Wyoming, western H, Ann 11, pp 481–484
Rabbit Valley, Utah, geology of HP, pp 276–279
Raft River Mountains, Utah, granite of.....K, I, pp 54–55
Railroads, elevations along....H, Bull, vol v, No 3, pp 441–453; H, Miscl 1, pp 5–17; H, Miscl 1 (3d ed), pp 39–52; H, Miscl 1 (4th ed), pp 6–51
Rainfall in western portion of United States.....AL, pp 46–56
Rapid Creek, South Dakota, mineral resources of BH, pp 267–272
Rattlesnake Canyon district, Nevada, notes on.....W, 1871, p 39
Rau (C.), observations on cup-shaped and other lapidarian sculptures in the Old World and in America.....Eth, v
Rawlings Peak, Wyoming, geology near.....K, II, pp 160–164
Paleozoic rocks of.....K, I, pp 136–138
Rawlings Springs, Wyoming, geology near.....LOR, 1868, pp 249–250; H, Ann 2, pp 96–97
Red Beds of Black Hills.....BH, pp 131–151
of Colorado, Front Range.....H, Ann 8, pp 42–44
White River district.....H, Ann 10, pp 72–73
Red Creek, Colorado, Archean rocks of K, II, pp 269–271
Red Creek, Wyoming, geology near.....H, Ann 4, pp 66–68
Red Mountain and Silver Peak districts, Nevada, notes on.....W, 1871, pp 48–49
Red Wall group, exposures of UM, p 55
of Uinta Mountains.....UM, pp 147–148
Red Wall limestone of Basin Ranges.....W, III, pp 178–179
Reese River, Nevada, mining and milling at.....K, III, pp 349–408
region east of, geology of.....K, II, pp 627–635
Reptiles and batrachians collected in California, Arizona, and Nevada.....W, 1878, pp 206–226
collected in portions of Nevada, Utah, California, Colorado, New Mexico, and Arizona W, V, pp 509–584
of Arizona, synopsis of.....W, V, pp 585–633
of Permian beds of Texas, some new H, Bull, vol VI, No 1, pp 79–82
(See, also, Vertebrates; Vertebrates, fossil.)
Reptiles and fishes collected in Idaho, Montana, Wyoming, and Utah....H, Ann 5, pp 467–476
of Cretaceous rocks of Kansas.....H, Ann 4, pp 385–425
report on.....H, Ann 4, pp 432–442
(See, also, Vertebrates; Vertebrates, fossil.)
Reveille district, Nevada, notes on.....W, 1871, p 42
Rhinoceridæ of North America, extinct species of, and their allies.....H, Bull, vol v, No 2, pp 227–237
(See, also, Vertebrates, fossil.)

Rhizopods, fresh-water, of North America H, Mon XII
(See, also, Invertebrates.)
Rhoda (F.), report on topography of the San Juan country H, Ann 8, pp 451–496; H, Bull, vol I, ser 2, No 3, pp 165–210
topographical report on southeastern district H, Ann 9, pp 302–333
Rhyolite, analysis of, from Arizona, Peloncillo Mountains W, III, pp 648, 651
analyses of, from California, Lassen Peak K, I, p 652
from Nevada, Bayless Canyon K, II, p 763
Belmont W, III, pp 649, 651
McKinneys Pass K, II, p 695
Montezuma Range K, II, p 758
Montezuma, Pah-Ute, Fish Creek, and West Humboldt ranges ..K, I, p 652
Mopung Hills K, II, p 736
Mount Moses K, II, p 664
Sou Spring Hills K, II, p 698
from New Mexico, Burro Mountains W, III, pp 649, 651
of Arizona and New Mexico W, III, pp 640–644
of Basin Ranges W, III, pp 255–256
of Black Hills, petrography of BH, pp 484–488, 495–503, 511
of Colorado, occurrence and character of H, Ann 10, pp 229–232
of Nevada K, I, pp 608–652
of Nevada and Utah, microscopic petrography of K, VI, pp 163–205
of Rocky Mountains K, I, pp 605–608
thin section of, from Black Hills BH, p 528
from Nevada, various localities K, VI, pls 6, 7, 8, 12
Rhyolites, characteristics of HP, pp 103–104
Ridge Bar mining camp, California, notes on W, 1879, p 188
Ridgway (R.), monograph of the genus Leucosticte Swainson, or gray-crowned purple finches H, Bull, vol I, ser 2, No 2, pp 51–82
ornithology of Fortieth Parallel region K, IV, pp 303–643
ornithology of Guadeloupe Island, based on notes and collections made by Dr. Edward Palmer H, Bull, vol II, No 2, pp 183–195
outlines of a natural arrangement of the Falconidæ H, Bull, vol I, ser 2, No 4, pp 225–231
studies of the American Falconidæ H, Bull, vol II, No 2, pp 91–182
studies of the American Falconidæ: Monograph of the Polybori H, Bull, vol I, ser 2, No 6, pp 451–473
studies of the American Herodiones: Part I. Synopsis of the American genera of Ardeidæ and Ciconiidæ; including descriptions of three new genera, and a monograph of the American species of the genus Ardea, Linn H, Bull, vol IV, No 1, pp 219–251
Riggs (S. R.), Dakota-English dictionary Eth, VII
Dakota grammar, texts and ethnography Eth, IX
Riley (C. V.) and Monell (J.), Notes on the Aphididæ of the United States, with descriptions of species occurring west of the Mississippi ..H, Bull, vol V, No 1, pp 1–32
Rio Grande, Texas, birds of H, Bull, vol IV, No 1, pp 1–66; H, Bull, vol V, No 3, pp 371–440
Rio Grande Basin, Colorado, geology of H, Ann 9, pp 153–167
Rio Grande region, New Mexico, agricultural resources of ..W, III, Supp, pp 362–373
geology of W, III, Supp, pp 313–353
Rio Grande Valley, New Mexico, agriculture in H, Ann 4, pp 204–207
geology of W, 1875, pp 64–68, 76–78

Rio Grande del Norte, New Mexico, agriculture in valley of.....W, III, pp 574–578
Rivers, profiles of.....H, Miscl I, pp 37–46; H, Miscl I (3d ed), pp 31–37; H, Miscl I, (4th ed), pp 145–159
Roads and trails in Colorado.....H, Ann 8, pp 428, 439–441; H, Ann 9, pp 347–350
in Wyoming, Sweetwater district.....H, Ann 11, pp 57–58
Roan or Book Cliffs, Utah, geology of.....H, Ann 10, pp 173–176
Robbins (J. W.), Potamogeton of Great Basin.....K, v, pp 337–340
Roberts (S. R.), report on Mollusca.....H, Ann 4, pp 467–469
Rock (Miles), report of.....W, 1879, pp 268–270
Rock Canyon. (See Spring Canyon.)
Rocky Mountains, coals of.....H, Ann 4, pp 179–186
Coleoptera of alpine regions of.....H, Bull, vol IV, No 2, pp 447–480; H, Bull, vol v, No 3, pp 499–520
elevation of, near Missouri River, period of.....H, Uncl 16, pp 9–13
flora of.....H, Bull, vol VI, No 1, pp 1–77
geological formations along eastern margins of.....H, Uncl 16, pp 13–16
of Colorado, notes on.....H, Bull, vol I, ser I, No 2, pp 72–77
Paleozoic rocks of.....K, I, pp 127–139
Primordial sandstone of, in northwestern Territories.....H, Uncl 16, pp 16–21
structure and age of.....W, III, pp 488–501
topographic features of crest of, south of Tennessee Pass..H, Ann 9, pp 373–377
Rodentia, North American, monograph on.....H, Mon XI
of Miocene of North America, review of.....H, Bull, vol VI, No 2, pp 361–386
(See, also, Vertebrates; Vertebrates, fossil.)
Roscoelite, analysis of, from Colorado, Boulder County.....H, Ann 10, p 150
Rose Spring district, California, notes on.....W, 1876, pp 65–66
Ross Fork, Idaho, geology along.....H, Ann 11, pp 328–329
Rothrock (J. T.), preliminary botanical report on portions of New Mexico and Arizona.....W, 1875, pp 117–129
preliminary report on the botany of central Colorado.....W, Uncl 5, pp 23–62
report upon economic botany and agriculture of portions of southern California.....W, 1876, pp 202–213
reports upon the botanical collections made in portions of Nevada, Utah, California, Colorado, New Mexico, and Arizona, 1871–1875.....W, VI
Ruby Range, Nevada, geology of.....K, II, pp 489–491
Ruins, ancient, human remains found among, in southwestern Colorado and northern New Mexico.....H, Bull, vol II, No 1, pp 47–63
in Arizona, Chelly Canyon.....W, VII, pp 372–373; H, Ann 10, pp 420–425
in Colorado, southwestern..H, Ann 8, pp 367–381; H, Ann 10, pp 383–452; H, Bull, vol I, ser 2, No 1, pp 17–30; H, Bull, vol II, No 1, pp 3–24
in New Mexico.....W, VII, pp 337–345; W, 1875, pp 174–178
Chaco Canyon.....W, VII, pp 366–369
Las Animas River region.....W, VII, pp 347–350; W, 1875, pp 178–180
in Utah and Arizona, San Juan River region.....H, Bull, vol II, No 1, pp 25–45
(See, also, Ethnology and archæology.)
Safford (T. H.), Catalogue of the mean declination of 2,018 stars.....W, Uncl 15
Safford (T. H.), Kampf (F.), Clark (J. H.), and Maryatt (W. W.), astronomical determinations in Nevada, Utah, Montana, Wyoming, Nebraska, Colorado, and New Mexico, 1872–1874.....W, II, pp 1–491
Saguache Range, Colorado. (See Sawatch Range.)
St. George, Utah, geology between Gila River, Arizona, and.....W, III, pp 189–225
St. John (O.), notes on the geology of northeastern New Mexico.....H, Bull, vol II, No 4, pp 279–308
report of the geological field work of Teton division.....H, Ann 11, pp 323–508
report on the geology of the Wind River district.....H, Ann 12, I, pp 173–269

St. John (O. H.), Descriptions of fossil fishes from the Upper Coal Measures of Nebraska....H, Uncl 1, pp 239–245
St. Marys, Wyoming, geology near....LOR, 1868, pp 248–249; H, Ann 2, pp 95–96
St. Vrain Creek, Colorado, geology near....H, Ann 3, pp 27–28; H, Ann 1–3, pp 127–128
Salamander of Florida, notes on....ECR, pp 282–285
Salt, analysis of, from California, southeastern....W, 1876, p 176
analysis of, from Colorado, Bear Creek....H, Ann 7, p 102; H, Ann 9, p 203
from Nevada, Columbus....W, 1876, p 176
from New Mexico....W, III, Supp, p 397
Zandia Mountains, salt lake near....W, III, p 627
from Wyoming, Percy, vicinity of....K, II, p 148
in Utah....W, III, p 263
Salt basins of Nebraska, Lancaster County....LOR, 1867, pp 130–131; H, Ann 1, pp 8–10
Salt deposit, analysis of, from Arizona, Sunset Crossing....W, III, p 628
Salt efflorescence, analysis of, from Arizona, Croton Springs, and Santa Catalina....W, III, p 629
Salt Lake. (See Great Salt Lake.)
Salt River, Wyoming, geology near....H, Ann 11, pp 551–556
Salt River Range, Wyoming, geology of....H, Ann 11, pp 545–551
Salt Wells group, exposures of....UM, pp 49–50
of Uinta Mountains....UM, p 154
San Antonio mining district, California, notes on....W, 1879, p 190
San Antonio mining district, Nevada, notes on....W, 1871, pp 45–46
San Emidio district, California, notes on....W, 1876, pp 51–52
San Fernando, California, geology of vicinity of....W, 1876, pp 160–166
San Gabriel mining district, California, notes on....W, 1879, p 189
San Juan, pueblo of, description of....W, VII, p 331
San Juan Mountains, Colorado, geology of....W, 1875, pp 100–101
San Juan region, Colorado, communication between Denver and, means of..H, Bull, vol I, ser 2, No 3, pp 145–149
geology of....H, Ann 8, pp 187–240; H, Ann 9, pp 241–276; H, Bull, vol I, ser 2, No 3, pp 151–164
mines of....H, Ann 8, pp 229–238; H, Bull, vol I, ser 2, No 3, pp 151–164
topography of....H, Ann 8, pp 451–496; H, Ann 9, pp 353–368; H, Bull, vol I, ser 2, No 3, pp 165–210
San Juan River, Colorado, geology of basin of....H, Ann 9, pp 167–171, 176–191, 248–251
San Juan River, Colorado, ruins and cave dwellings near....H, Ann 10, pp 388–390, 415–420; H, Bull, vol II, No 1, pp 7–10, 25–45
San Juan River, New Mexico, ruins of houses of Indians on....Eth, IV, pp 154–197
San Luis district, Colorado, geology of....H, Ann 7, pp 305–351
San Luis Valley, Colorado, agriculture in....H, Ann 4, pp 197–202
cultivable areas in....H, Ann 10, pp 328–330
features of....W, 1876, pp 86–88
geology and topography of....H, Ann 9, pp 140–149
San Miguel Mountains, Colorado, geology of....H, Ann 10, pp 193–195
San Miguel region, Colorado, physical features of....W, 1876, pp 98–100
Sand, analysis of, from Utah, Great Salt Lake....K, II, p 435
Sand hills of Nebraska, description of....H, Ann 4, pp 108–115
Sandstone, analysis of, from Colorado, Big Thompson Canyon....K, II, p 35
analysis of, from Colorado, Browns Hole....K, I, p 542
from Colorado, Browns Park....K, II, p 223

Sandstone, analysis of, from Nevada, Battle Mountain.....K, I, p 542
analysis of, from Nevada, West Humboldt Mountains.....K, I, p 542
from Utah, Ashley Creek.....K, I, p 542
Cache Valley.....K, I, p 542
Cottonwood Canyon, vicinity of.....K, I, p 542
Duchesne Fork.....K, II, p 304
Parleys Canyon.....K, I, p 542
Three Lakes.....K, I, p 542
Uinta Mountains.....K, I, p 542
Weber Canyon.....K, I, p 542
from Wyoming, Black Butte.....K, I, p 542
Bridger Basin.....K, II, p 246
Cathedral Bluffs.....K, I, p 542
St. Marys Peak.....K, II, p 155; K, I, p 542
Wahlbach Spring.....K, II, p 41
Sangre de Cristo Range, Colorado, geology of.....H, Ann 9, pp 108–139
Sanidine-trachyte of Black Hills, petrography of.....BH, pp 496–499, 505–510, 512–514, 515–523
thin section of, from Black Hills.....BH, p 528
Santa Barbara, California, ethnological researches near.....W, VII, pp 32–47; W, 1876, pp 312–321
Santa Barbara Islands, California, crania from, observations on...W, VII, pp 277–292
kjökkenmöddings and graves of a former population of.....H, Bull, vol III, No 1, pp 37–56
Santa Clara Valley, California, irrigation in.....H, Ann 5, pp 269–271
Santa Cruz Island, California, physical features of.....W, 1876, pp 215–216
Santa Fe, New Mexico, astronomical determinations at.....W, II, pp 337–369
mines near.....H, Ann 3, pp 121–123; H, Ann 1–3, pp 119–121
Santa Fe marls of New Mexico, Galisteo Creek region.....W, III, Supp, pp 162–163
vertebrate paleontology of.....W, 1875, pp 68–76
Santa Monica Range, California, geology of.....W, 1876, pp 159–160
Savory Plateau region, Wyoming, geology of.....K, II, pp 164–166
Sawatch Range, Colorado, geology of.....H, Ann 9, pp 150–175
Schirmerite, analysis of, from Colorado, Gold Hill.....H, Ann 10, p 151
Schists, crystalline, genesis of granite and.....K, I, pp 112–121
of Fortieth Parallel region, microscopical petrography of.....K, VI, pp 14–38
Schit-zui language, vocabulary of.....Eth, I, pp 267–283
(See, also, Ethnology and archæology.)
Schmankewitsch (W. J.), contribution to a knowledge of the influence of external conditions of life upon the organization of animals..H, Ann 12, I, pp 473–514
on the relation of Artemia salina Milne-Edwards to Artemia muehlhausenii Milne-Edwards and to the genus Branchipus Schaefer....H, Ann 12, I, pp 466–473
Schumacher (P.), method of manufacture of soapstone pots.....W, VII, pp 117–121
methods of making stone weapons.....H, Bull, vol III, No 3, pp 547–549
researches in the kjökkenmöddings and graves of a former population of the coast of Oregon.....H, Bull, vol III, No 1, pp 27–35
researches in the kjökkenmöddings and graves of a former population of the Santa Barbara Islands and the adjacent mainland.....H, Bull, vol III, No 1, pp 37–56
Sciuri, synonymatic list of American.....H, Bull, vol IV, No 4, pp 877–887
(See, also, Vertebrates.)
Sciurus, revision of the genus.....H, Bull, vol VI, No 2, pp 301–307
(See, also, Vertebrates.)

Scotland, primitive lapidarian sculptures in....Eth, v, pp 9–15
Scudder (S. H.), account of some insects of unusual interest from the Tertiary rocks of Colorado and Wyoming....H, Bull, vol IV, No 2, pp 519–543
brief synopsis of North American earwigs, with an appendix on the fossil species....H, Bull, vol II, No 3, pp 249–260
description of two species of Carabidæ found in the interglacial deposits of Scarboro Heights, near Toronto, Canada....H, Bull, vol III, No 4, pp 763–764
first-discovered traces of fossil insects in the American Tertiaries....H, Bull, vol III, No 4, pp 741–762
fossil Coleoptera from the Rocky Mountain Tertiaries....H, Bull, vol II, No 1, pp 77–87
fossil insects of the Green River shales....H, Bull, vol IV, No 4, pp 747–776
fossil Orthoptera from the Rocky Mountain Tertiaries....H, Bull, vol I, ser 2, No 6, pp 447–449
list of Orthoptera collected by Dr. A. S. Packard in Colorado and the neighboring Territories in 1875....H, Bull, vol II, No 3, pp 261–267
notes on Orthoptera collected in Nebraska....H, Uncl 1, pp 249–261
notice of a small collection of butterflies, made by Dr. A. S. Packard in Colorado and Utah in 1875....H, Bull, vol II, No 3, pp 269–270
notice of the butterflies collected by Dr. Edward Palmer in the arid regions of southern Utah and northern Arizona during summer of 1877....H, Bull, vol IV, No 1, pp 253–258
report on Orthoptera collected in California, New Mexico, and Colorado..W, 1876, pp 278–295
Tertiary insects of North America....H, Mon XIII
Tertiary lake basin at Florissant, Colorado, between South and Hayden parks ...H, Ann 12, I, pp 271–293; H, Bull, vol VI, No 2, pp 279–300
Tertiary Physopoda of Colorado....H, Bull, vol I, ser 2, No 4, pp 221–223
Sculptures made by Indians of California....W, VII, pp 218–221
Sea bears, seals, walruses, and sea lions, monograph of....H, Miscl 12
Secret Canyon district, Nevada, notes on....W, 1871, p 37
Section of a laccolite....HM, fig 8 (p 19), fig 9 (p 20), fig 10 (p 21)
of Shinarump group....UM, p 53
of Vermilion Cliff group....UM, p 53
of White Cliff group....UM, p 53
Section, geologic, in Alabama, Cretaceous rocks....H, Mon IX, pp xxxix–xl
in Arizona....H, Ann 8, p 134
Apache and Pinal mountains....W, III, fig 93 (p 221)
Aubrey Cliff....W, III, fig 67 (p 163)
Pink Cliff to....W, III, fig 22 (p 47)
Boulder Canyon....W, III, fig 15 (p 35)
Camp Apache, Gila River to....W, III, pl 4 (p 227)
Little Colorado River to....W, III, pl 4 (p 227)
vicinity of....W, III, fig 70 (p 165)
Canyon Creek....W, III, fig 68 (p 164)
Carriso Mountains, vicinity of....H, Atlas, sheet xvii
Carrizo Creek....W, III, fig 69 (p 164)
Chiricahui Range....W, III, figs 146–148 (p 511), pp 512, 513
Colorado River, near Camp Mohave....W, 1876, p 122
Rio Grande, New Mexico to....W, III, figs 119–122 (p 288)
Diamond Creek fault....W, III, fig 31 (p 55)
Ewell Spring....W, III, p 512
Fort Wingate to Zuñi Bluff....W, III, fig 118 (p 288)
Gila River to Camp Apache....W, III, pl 4 (p 227)

Section, geologic, in Arizona, Grand Canyon H, Ann 9, p 83; W, III, fig 66 (p 162); UM, p 43, fig 10 (p 57), p 59
in Arizona, Grand Canyon district UM, fig 3 (p 14)
Grand Wash fault W, III, fig 30 (p 54)
Kaibab Plateau W, III, fig 29 (p 53)
Kanab Canyon W, III, fig 65 (p 161)
Labyrinth Canyon H, Ann 9, p 71
Little Colorado River, Camp Apache to W, III, pl IV (p 227)
Verde River to W, III, pl IV (p 227)
Natanes Plateau W, III, fig 150 (p 528)
New River W, III, fig 89 (p 201)
Oraybe W, III, p 277
Painted Desert H, Ann 8, p 127
Paria fold W, III, figs 27, 28 (p 52)
San Carlos Valley W, III, fig 92 (p 220)
San Francisco Mountain W, III, fig. 42 (p 81)
Tinnahkah Springs W, III, fig 87 (p 199), fig 88 (p 200)
Truxton Springs W, III, fig 90 (p 203), p 204
Verde River to Little Colorado W, III, pl IV (p 227)
Verde Valley W, III, fig 16 (p 36)
Virgin Range to Paria fold W, III, fig 26 (p 51)
Zuñi Bluff to Fort Wingate W, III, fig 118 (p 288)
Zuñi Mountains W, III, figs 115–117 (p 286)
Zuñi Valley W, III, fig 152 (p 533)
in California, Canyon Springs W, 1876, fig 1 (p 175)
Colorado River at Fort Yuma W, 1876, p 124
Fort Tejon, vicinity of W, 1876, fig 6 (p 168)
Funeral Mountains W, III, fig 13 (p 34), fig 80 (p 170)
Grapevine Canyon W, 1876, fig 3 (p 162), fig 4 (p 163)
Inyo Range W, III, fig 14 (p 34)
Owens Lake, vicinity of W, 1876, fig 3 (p 180)
Pilot Mountain W, III, fig 51 (p 124)
Red Rock Canyon W, III, fig 56 (p 142)
San Fernando, vicinity of W, 1876, fig 2 (p 160)
Santa Monica Range W, 1876, fig 1 (p 159)
in Canada H, Bull, vol I, ser 2, No 5, p 372
Porcupine Creek H, Bull, vol I, ser 2, No 5, p 373
in Colorado, Alpine Plateau to Great Sage Plain, Utah H, Atlas, sheet xvii
Animas River H, Ann 9, pl XXVIII (p 189); H, Mon III, fig 2 (p 5)
Antelope Park to Abajo Mountains, Utah H, Atlas, sheet xvii
Arapahoe Peak to Park Range H, Ann 9, pl LVIII (p 408)
Arkansas River W, III, pp 359, 396; H, Ann 8, p 31
Fairplay to H, Ann 9, pl LX (p 438)
Arkansas Valley ... H, Ann 6, p 323; H, Ann 8, p 48; W, 1875, fig 1 (p 98)
Aspen Mountain uplift UM, Atlas
Bald Peak W, III, p 357
Battlement Mesa H, Ann 10, p 183
Battlement Mesa to Book Cliffs H, Ann 10, pl XII (p 184)
Bear Canyon H, Ann 7, pl 1 (p 93), pp 99, 101, 103
Bear Creek H, Ann 7, pl I (p 93), p 100
Beaver Creek H, Ann 12, I, p 271; W, III, p 379
Bergen Park H, Ann 7, p 207
Big Thompson Creek H, Ann 7, p 98; K, I, p 300
vicinity of H, Ann 3, p 25; H, Ann 1-3, p 125
Bijou Creek H, Ann 11, p 189

Section, geologic, in Colorado, Blue River Valley....H, Ann 7, p 187
in Colorado, Book Plateau to White River Plateau....H, Atlas, sheet xvii
Boulder, Marshall mine....K, III, pp 481–483
Box Elder....H, Ann 7, p 196
Box Elder Creek..H, Ann 3, p 19; H, Ann 1–3, p 119; K, I, p 251; K, II, p 38
Buckskin Gulch....H, Ann 7, p 228
Buffalo Peak....H, Ann 7, pl VI (p 212), p 237
Canyon....H, Ann 8, p 69
vicinity of....H, Ann 3, p 50; H, Ann 1–3, p 151; H, Ann 7, pl X (p 314); H, Bull, vol I, ser 2, No 5, pp 249, 250; W, III, p 398
Capitol Peak to Sopris Peak....H, Ann 7, pl XX (p 265)
Carr station, vicinity of....K, II, p 61
Carriso Mountains....H, Ann 9, pl XLVII (p 274)
Central City, vicinity of....H, Ann 7, pl II (p 280)
Cheyenne Mountain....H, Ann 9, pl LIII (p 360)
Cochetopa Creek....H, Ann 7, pl XIV (p 339)
Colorado Springs, vicinity of....H, Ann 8, p 40
Corral Peak to Park Range....H, Ann 9, pl LVIII (p 408)
Cottonwood Park....W, III, p 388
Crow Creek....H, Ann 11, p 164
Dawson Butte to South Platte River....H, Ann 9, pl LX (p 438)
Denver....H, Ann 7, p 109
vicinity of....H, Ann 6, p 327; H, Ann 7, p 121
Dolores Valley, showing relation of San Juan Valley to....H, Ann 9, pl XLIII (p 266)
Douglas Creek....H, Ann 10, pl V (p 81)
Dry Creek....H, Ann 7, fig 1 (p 96)
Eagle River....H Ann 7, pp 243–245; H, Ann 8, pl I (p 80), pl III (p 83), pp 113, 115, 118, 122, 125, 129; W, III, pp 368–370
Hamilton to....H, Ann 9, pl LX (p 438)
Ute Peak to....H, Ann 9, pl LVIII (p 408)
Elk Mountains....H, Ann 7, pl XVIII (p 258); H, Ann 8, fig 9 (p 69), p 73
Grand River Valley to....H, Atlas, sheet xvii
Elkhead Mountains to Great Plains....K, Atlas
Evans Range to South Platte River....H, Ann 9, pl LX (p 438)
Fairplay to Arkansas River....H, Ann 9, pl LX (p 438)
Florissant....H, Ann 7, p 210; H, Bull vol VI, No 2, pp 284–285, 288
vicinity of..H, Ann 12, I, pp 275–276, 278; H, Mon VIII, pp 128, 132–133
Fourmile Creek to Horseshoe Mountain....H, Ann 7, pp 229–233
Frazier Canyon....H, Ann 7, p 164
Front Range....H, Ann 7, pl V (p 208); K, I, p 305
Frying Pan Creek to Roaring Fork....H, Ann 7, pl XX (p 265)
Georgia Pass....H, Ann 7, p 213
Homestake Peak to....H, Ann 9, pl LX (p 438)
Glen Eyrie....H, Ann 7, pl III (p 200), p 201, pl IV (p 204); H, Ann 8, pl VII (p 42)
Golden....H, Ann 7, pl I (p 93), pp 109, 126, 127
Gothic Mountain....H, Ann 8, pl XIV (p 54)
Grand Mesa to Book Cliffs....H, Ann 10, pl XII (p 184)
Grand River....H, Ann 8, pl IV (p 88), pl VI (p 92), pp 113, 130, 137–138; H, Ann 10, p 171
Elk Mountain to....H, Atlas, sheet xvii
Grand River district....H, Ann 10, pl XII (p 184)

Section, geologic, in Colorado, Great Plains, Elkhead Mountains, to K, Atlas
in Colorado, Great Plains, westward from.....H, Atlas, sheet xviii
Greeley, vicinity of.....H, Ann 8, p 34
Gunnison River.....H, Ann 8, pl VII (p 97), pl VIII (p 102), pl IX (p 105), pp 126, 131, 132, 133, 138, pl XIV (p 169); H, Ann 9, pl I (p 38)
Gunnison Valley.....H, Ann 10, pl XII (p 184)
Hamilton, vicinity of.....W, III, pp 391, 454
Eagle River to.....H, Ann 9, pl LX (p 438)
Homestake Peak to Georgia Pass.....H, Ann 9, pl LX (p 438)
Hoosier Pass, vicinity of.....H, Ann 7, pl VI (p 212)
Huerfano Park.....H, Ann 9, pl XIV (p 124)
Iowa Gulch.....H, Ann 7, pl XI (p 234), pp 234–235; W, III, p 371
Italian Mountain.....H, Ann 7, pp 251–252
James Peak to Whiteface Peak.....H, Ann 9, pl LVIII (p 408)
Junction Mountain.....UM, figs 1, 2 (p 10)
La Plata Mountains.....H, Ann 9, pl XXXV (p 244), pl XLV (p 270)
Laporte, vicinity of.....H, Ann 3, p 17; H, Ann 1–3, p 117
Little Book Cliffs.....H, Ann 10, p 177
Little Fountain Creek.....W, III, p 379
Little Platte River.....H, Ann 7, pl VI (p 212), pp 221–223, 224
Little Thompson Creek.....H, Ann 7, pl I (p 93), pp 102, 103
Lodore, canyon of.....UM, fig 14 (p 145)
Longs Canyon.....W, III, Supp, pp 211, 212
coal bed in.....W, III, Supp, pp 111, 113, 116
Longs Peak to Mount Powell.....H, Ann 9, pl LVIII (p 408)
Marcos Canyon.....H, Ann 9, p 255
Marshall.....H, Mon VII, pp 16–17
Mesa Verde.....H, Ann 9, p 248, pl XL (p 254), pl LIII (p 360)
Mesa Verde group in Great Hogback.....H, Ann 9, p 252
Middle Park, Blue River Valley.....H, Ann 7, pl III (p 192)
Grand River.....H, Ann 3, p 85; H, Ann 1–3, p 185
Hot Springs.....H, Ann 7, pl III (p 192)
Hot Springs and Grand Lake roads, near junction.....H, Ann 7, fig 11 (p 163)
Muddy River Valley.....H, Ann 7, pl III (p 192)
Montgomery, vicinity of.....H, Ann 7, p 225
Monument Creek.....H, Ann 6, p 325
Gehrung's mine.....H, Ann 7, p 202
vicinity of.....H, Ann 8, p 30
Mosquito Gulch.....H, Ann 7, pp 228–229, pl VII (p 229)
Mount Bross.....H, Ann 7, pl VI (p 212), p 302
vicinity of.....H, Ann 7, p 225
Mount Guyot, east of.....H, Ann 7, pl VI (p 212)
Mount Lincoln.....H, Ann 7, p 227
Mount Ouray.....H, Ann 7, p 338
Mount Powell to Longs Peak.....H, Ann 9, pl LVIII (p 408)
Mount Silverheels.....H, Ann 7, pp 214–215
Navajo River.....H, Ann 9, pl XXVI (p 186), pl XLVII (p 274)
North Table Mountain.....H, Ann 7, p 130
northern.....K, II, p 41
northwestern.....H, Ann 10, p 60
Nutria River.....H, Ann 9, pl XXVII p 188
O-Be Joyful Creek.....H, Ann 8, p 138
Oil Creek Valley.....H, Ann 7, pl XII (p 316), fig 7 (p 317)

Section, geologic, in Colorado, Pagosa Springs H, Ann 9, pl XXIV (p 168)
in Colorado, Pagosa Springs, vicinity of H, Ann 9, pl XXVI (p 186)
Park Range H, Ann 9, pl LVIII (p 408); UM, Atlas
Great Plains to H, Atlas, sheet xviii
Plateau Creek H, Ann 8, pp 156–157
Platteville, vicinity of H, Ann 8, pp 33, 34
Pleasant Park H, Ann 7, pp 197–198, pl II (p 198), pl IV (p 204)
Pole Creek H, Ann 3, p 93; H, Ann 1–3, p 193
Princeton Peak, vicinity of H, Ann 7, pl VIII (p 311)
Pulpit Rock, north of Colorado Springs H, Ann 8, pl I (p 30)
Purgatory River H, Ann 6, pp 319, 320;
H, Ann 9, pl XXIX (p 194), p 195; W, III,
Supp, pp 208, 213, 214, 215, 216, 217, 218, 219
coal bed on W, III, Supp, pp 109, 112, 118
vicinity of H, Ann 9, pl XXXII (p 198)
Ralston Creek H, Ann 7, pl I (p 93), p 99
Raton Creek W, III, Supp, pp 201, 202, 203, 204, 205, 207
coal bed on W, III, Supp, pp 117, 118
Reillys Canyon W, III, Supp, pp 208, 209, 210
coal bed on W, III, Supp, pp 115, 116
Roan Cliffs H, Ann 10, p 183
Roaring Fork H, Ann 7,
pl XIX (p 263), pp 263–264; H, Ann 8, pl IV (p 88), p 125
Frying Pan Creek to H, Ann 7, pl XX (p 265)
Rock Creek H, Ann 7, p 258; W, III, pp 362–364
Rocky Mountains, eastern base H, Ann 7, pl II (p 136)
Roubideau Creek H, Ann 8, p 136
Saguache Creek, vicinity of W, III, p 419
St. Vrain Creek H, Ann 7, p 99
San Juan Mountains, Great Plains to H, Atlas, sheet xviii
San Juan Valley, Utah, to H, Atlas, sheet xvii
San Juan region H, Ann 8, pp 214, 217, 218, 219, 223, 224, 226, 227
San Juan River H, Mon III, fig 3 (p 7)
Great Hogback to H, Ann 9, p 251, pl XXXVIII (p 252)
San Juan Valley H, Ann 9, pls XXXV and XXXVI (p 244)
showing relation of Dolores Valley to H, Ann 9, pl XLIII (p 266)
San Luis district H, Ann 7, pl VIII (p 311), pl X (p 314), pl XIII (p 327)
San Miguel Mountains H, Ann 9, pl XXXVI (p 244)
vicinity of H, Atlas, sheet xvii
San Miguel Plateau H, Ann 10, pl IX (p 168)
Sangre de Cristo Range H, Atlas,
sheet xviii; H, Ann 7, pl XIII (p 327); H, Ann 9, pl IX
(p 114), pl X (p 118), pl XIII (p 122), pl XIV (p 124)
Sawatch Range to Great Plains H, Atlas, sheet xviii
showing relations of sedimentary rocks of plains to Archean rocks of
mountains H, Ann 7, fig 1 (p 96)
Sierra El Late, showing intrusion of trachyte H, Ann 9, pl XLVI (p 272)
Sierra La Sal H, Ann 9, pl VI (p 62)
Sopris Peak H, Ann 8, p 61; fig 3 (p 62)
Capitol Peak to H, Ann 7, pl XX (p 265)
South Boulder Creek H, Ann 3,
pp 29–30; H, Ann 1–3, pp 129–130; H, Uncl 1, p 62
Marshall mine H, Ann 7, pp 123–124

Section, geologic, in Colorado, South Platte River H, Ann 7, pp 93, 101, pl I (p 195), pl IV (p 204), pl VI (p 212), pp 216–218; H, Bull, vol I, ser 2, No 5, p 403; W, III, Supp, pp 141, 142
in Colorado, South Platte River, Dawson Butte to H, Ann 9, pl LX (p 438)
South Platte River, Evans Range to H, Ann 9, pl LX (p 438)
Spanish Peaks H, Ann 7, p 368
Laramie group near W, 1879, p 278
Spanish Peaks region H, Atlas, sheet xviii
Sultan Mountain, vicinity of H, Ann 8, p 217
Sunny Point K, I, p 385; K, II, p 220
Taylor River W, III, pp 360, 365
Teocalli Creek H, Ann 7, pp 253–254, pl XVI (p 254)
Teocalli Mountain H, Ann 7, p 254
Thompson Creek, vicinity of H, Uncl 1, p 65
Tousland H, Ann 8, p 33
T. 5 N., R. 66 W., sec 12 H, Ann 8, p 38
Trinidad, coal groups near H, Ann 9, pl XXX (p 196)
Munger and Bloomfield bank H, Ann 9, pl XXX (p 196)
Riffenburg bank H, Ann 9, pl XXX (p 196)
vicinity of W, III, Supp, pp 198, 199, 200
Trinidad coal field, Laramie group W, III, Supp, pp 104–105
Trout Creek H, Ann 7, pp 208, 209
Turkey Creek W, III, p 380
Uinta Range to Little Snake River K, Atlas
Unaweep Canyon H, Ann 9, pl IV (p 58)
Uncompahgre Plateau H, Atlas, sheet xvii; H, Ann 9, pl II (p 42), pl III (p 50)
Ute Peak to Eagle River H, Ann 9, pl LVIII (p 408)
Valmont H, Ann 7, fig 2 (p 29)
Walsenburg, vicinity of H, Ann 9, pl XXX (p 196), p 197
Westons Pass H, Ann 7, pl XII (p 237)
White River, Yampa River to H, Ann 10, pl XXVIII (p 363)
White River district H, Ann 10, pl III (p 73), pl IV (p 74)
White River Plateau, Book Plateau to H, Atlas, sheet xvii
Green River Valley to H, Atlas, sheet xvii
Whiteface Peak to James Peak H, Ann 9, pl LVIII (p 408)
Willow Creek H, Ann 7, pl I (p 195)
Yampa district H, Ann 10, pl I (p 19); H, Mon III, fig 4 (p 8); H, Atlas, sheet xvii
Yampa Plateau H, Ann 10, p 60
Yampa River to White River H, Ann 10, pl XXVII (p 369), pl XXVIII (p 363)
in Grand Canyon of Colorado River W, III, figs 36–39 (p 69), fig 82 (p 196), fig 85 (p 198), fig 86 (p 199)
in Idaho, Bannock Range H, Ann 11, p 570
Bear Lake Plateau H, Ann 11, pl LXX (p 584)
Bear River to Thomas Fork H, Ann 11, pl LXXI (p 586)
Blackfoot Basin H, Ann 11, pl LXII (p 560), pl LXIII (p 562)
Blackfoot Range H, Ann 11, p 339, pl XIII (p 340), pl XIV (p 344), pp 347–349
Blackfoot River to Portneuf River H, Ann 11, pl X (p 334)
Caribou Range H, Ann 11, pl XXII (p 378), pp 379–381, pl XXIII (p 382), pp 383–384, 385–386, pl XXIV (p 386), pp 389–390, pl XXVII (p 392), pp 393–400, pl XXVIII (p 394)

Section, geologic, in Idaho, eastern....H, Ann 11, p 623
in Idaho, Fall Creek, vicinity of....H, Ann 11, pl XXII (p 378)
Fall Creek, between Mosquito Creek and....H, Ann 11, pl XVIII (p 364)
northeast border of....H, Ann 11, pl XIX (p 366), pp 366–370
Grouse Creek, vicinity of....H, Ann 11, pl XX (p 372), p 377
Highams Peak....H, Ann 11, p 336, pl II (p 336)
John Gray Creek, north of....H, Ann 11, pl XXVIII (p 364)
John Gray Lake, vicinity of....H, Ann 11, p 358
Lincoln Valley....H, Ann 11, p 331
Malade Range....H, Ann 11, p 606, pl LXXVI (p 608)
McCoy Creek....H, Ann 11, pl XXVII (p 392), pp 393–400, pl XXVIII (p 394)
Middle Creek Valley....H, Ann 11, pl LXI (p 558)
Mosquito Creek, between Fall Creek and....H, Ann 11, pl XVIII (p 364)
Mount Putnam Ridge....H, Ann 11, pl VIII (p 328)
Pierre Mountains....H, Ann 11, pl XXXVIII (p 426), pp 426–427, 430–431
Portneuf Range....H, Ann 11, p 568
Portneuf region....H, Ann 11, pl LXV (p 566)
Portneuf River to Blackfoot River....H, Ann 11, pl X (p 334)
Ross Fork....H, Ann 11, pl VIII (p 328), pp 333–334, pl X (p 334)
Smith Fork to Thomas Fork....H, Ann 11, pl LXIX (p 582)
Snake River, vicinity of....H, Ann 11, pl XXII (p 378), pp 379–381; pl XXIII (p 382), pp 383–384, 385–386, pl XXIV (p 386)
Snake River Valley, Lower....H, Ann 11, pl XXX (p 408)
South Pyramid Creek....H, Ann 11, pp 385–386, pl XXIV (p 386)
southeastern and Wyoming, western....H, Bull, vol V, No 1, p 120
Thomas Fork to Bear River....H, Ann 11, pl LXXI (p 586)
Three Deer Creek, vicinity of....H, Ann 11, pl XX (p 372), pp 372–374, pl XXII (p 378), pp 379–381
Willow Creek Basin....H, Ann 11, pl XV (p 350), pl XVI (p 352)
Willow Creek Ridge....H, Ann 11, pp 352–353, 354–356
in Kansas, Atchison....H, Uncl 1, pp 121–122
Riverside....H, Uncl 1, pp 119–120
St. Joseph....H, Uncl 1, pp 117–118
in Mississippi, Cretaceous rocks....H, Mon IX, p XXXVIII
in Montana, Cinnabar Mountain....H, Ann 6, pp 41–42
Cinnabar Mountain, Gardiner River to....H, Ann 6, fig 30 (p 121)
Flathead Pass....H, Ann 6, fig 24 (p 84)
Fort Ellis, coal bed near....H, Ann 6, fig 28 (p 114)
Fort Union....H, Mon IX, p lix
Gallatin City, vicinity of....H, Ann 6, pp 172–174
Gallatin River, Madison River to....H, Ann 6, fig 42 (p 164)
Gardiner River, Cinnabar Mountain to....H, Ann 6, fig 30 (p 121)
Jackass Creek....H, Ann 6, fig 41 (p 162), p 163
Judith River....H, Mon IX, p xlviii
Madison River, Gallatin River to....H, Ann 6, fig 42 (p 164)
Missouri Valley, below Three Forks....H, Ann 6, figs 20, 21, 22 (pp 71, 72, 73)
Soda Butte....H, Ann 6, fig 6 (p 46)
Spring Canyon....H, Ann 6, fig 27 (p 110), pp 111–112
Bridger Peak to....H, Ann 6, fig 27a (p 113)
in Nebraska, Ashland, vicinity of....H, Uncl 1, p 38
Aspinwall....H, Uncl 1, pp 112–113
Beatrice, vicinity of....LOR, 1867, p 146; H, Ann 1, p 27
Bellevue....H, Uncl 1, p 89
vicinity of....LOR, 1867, p 159; H, Ann 1, p 41; H, Uncl 1, p 8

Section, geologic, in Nebraska, Bennetts Mill H, Uncl 1, p 100
in Nebraska, Big Blue River, vicinity of H, Uncl 1, p 28
Blue Spring LOR, 1867, p 146; H, Ann 1, p 26; H, Uncl 1, p 27
Brownville H, Uncl 1, pp 110, 111–112
Cedar Bluff H, Uncl 1, p 98
Coal Creek H, Uncl 1, p 30
Cretaceous rocks LOR, 1867, p 167; H, Ann 1, p 49; H, Ann 7, p 104; H, Mon IX, pp xxiv–xxv
Decatur, vicinity of LOR, 1867, p 164; H, Ann 1, p 46; H, Uncl 1, pp 40, 41
Iowa Creek LOR, 1867, p 165; H, Ann 1, p 48; H, Uncl 1, p 43
Little Blue River LOR, 1867, p 148; H, Ann 1, p 29; H, Uncl 1, pp 29–30
Nebraska City, at and near H, Uncl 1, pp 101, 103, 105–107
Nemaha River H, Uncl 1, p 22
Omaha H, Uncl 1, p 87
Otoe Agency LOR, 1867, p 145; H, Ann 1, p 25; H, Uncl 1, p 26
Otoe City H, Uncl 1, pp 107–108
Pawnee City, vicinity of H, Uncl 1, p 23
Platte River H, Uncl 1, pp 90–91
vicinity of LOR, 1867, pp 160, 161; H, Ann 1, pp 42, 43
Plattsmouth H, Uncl 1, p 93
Rock Bluff H, Uncl 1, pp 95–96
Rulo, vicinity of H, Uncl 1, pp 114, 115
Salem H, Uncl 1, p 21
vicinity of LOR, 1867, p 142; H, Ann 1, p 22
Tecumseh H, Uncl 1, p 34
Tertiary formations LOR, 1867, p 173; H, Ann 1, p 56; H, Ann 4, p 93
Turners Branch H, Uncl 1, p 22
Weeping Water LOR, 1867, p 158; H, Ann 1, p 40; H, Uncl 1, p 14
Weeping Water River H, Uncl 1, p 14
White River H, Mon III, pp 14–15
White River group H, Mon IX, p lxiii
in Nebraska and Wyoming H, Uncl 1, pp 99–100
in Nevada, Amargosa Range W, III, fig 12 (p 33), p 169, fig 78 (p 170)
Battle Mountains to Virginia Range K, Atlas
Callville, vicinity of W, 1876, fig 5 (p 182)
Coal Creek K, II, p 605
Colorado River at Stones Ferry W, 1876, p 120
Cortez Range to Gosiute Range K, Atlas
Inyo Range W, III, p 169, fig 79 (p 170)
Kawsoh Mountains K, I, pp 415–416; K, II, p 766
Mokomoke Ridge to Treasure Peak K, II, p 544
Mount Worthington W, III, fig 17 (p 37)
Ombe Mountains to Shoshone Mesa K, Atlas
Pahranagat Range W, III, fig 18 (p 38), fig 76 (pp 168–169)
Pine Mountains to Virgin Mountains W, III, fig 99 (pp 247–248)
Piñon Range K, II, p 554
Schell Creek Range W, III, fig 9 (p 31), fig 75 (pp 167–168)
Shoshone Mesa to Ombe Mountains K, Atlas
Shoshone Range to Virginia Range K, Atlas
Snake Range W, III, fig 98 (p 241)
Spring Mountain Range W, III, fig 10 (p 32), fig 71 (p 166)
Timpahute Range W, III, fig 19 (p 38), p 169
Toyabe Range K, III, pl XXVI (p 327)
Treasure Peak to Mokomoke Ridge K, II, p 544

Section, geologic, in Nevada, Virgin Mountains to Pine Mountains W, III, fig 99 (pp 247–248)
in Nevada, Virginia Range, Battle Mountains to K, Atlas
Virginia Range, Shoshone Range to K, Atlas
Washoe district K, III, pl I (p 18)
Comstock lode K, III, Atlas, pl XII
Gold Hill mines K, III, Atlas, pls III, VI, VIII, X, XI
Virginia mines K, III, Atlas, pls IV, V, VII, IX
White Pine district K, III, pl XXVIII (p 417)
in New Jersey, Cretaceous rocks H, Mon IX, p XLI
in New Mexico H, Mon IX, p XXXVII
Acoma, vicinity of W, III, pp 553–554
Arroyo de los Angeles W, III, Supp, p 162
Arroya San Cristobal W, III, Supp, fig 2 (p 50)
Bear Spring W, III, pp 551–552
Cameron, vicinity of W, III, Supp, fig 34 (p 253), fig 35 (p 254), fig 36 (p 255), fig 37 (p 256)
Canadian River W, III, Supp, fig 39 (p 266), pp 267, 268, fig 40 (p 268), fig 41 (p 269), fig 42 (p 270), fig 43 (p 271)
coal bed on W, III, Supp, pp 107, 108, 117, 121
Cebolla Creek W, III, Supp, fig 9 (p 57)
Covero, buttes near W, III, fig 155 (p 535)
Coyote Creek W, III, Supp, figs 4, 5, 6 (pp 55, 56), pp 76, 291, 293
Crow Creek W, III, Supp, fig 38 (p 263), pp 264–265
coal bed on W, III, Supp, pp 119, 121
Datil Range W, III, fig 151 (p 532)
Tres Hermanos Buttes to W, III, pp 549–550
Dillons Canyon W, III, Supp, fig 44 (p 273), fig 45 (p 274), p 275, fig 46 (p 276), fig 47 (p 277)
coal bed in W, III, Supp, pp 116, 120
Fort Union, vicinity of W, 1877, p 1298
Fort Wingate, vicinity of H, Ann 9, p 85
Galisteo coal field W, III, Supp, pp 127–128
Galisteo Creek W, III, Supp, fig 1 (p 50), pp 330–332; 333–334
coal beds on W, III, Supp, pp 129, 130
vicinity of H, Ann 3, p 67; H, Ann 1–3, p 167
Gallinas Creek W, III, Supp, fig 11 (p 59); H, Ann 3, pp 62–63; H, Ann 1–3, pp 162–163
Gallinas Mountains, vicinity of H, Mon III, fig 1 (p 4)
Gallinas River, vicinity of W, IV, pt II, fig 1 (p 11)
Guadalupe River W, 1875, fig 2 (p 104)
Manco Burro Pass W, III, Supp, p 196
Manuelitos Creek W, III, Supp, fig 10 (p 58), pp 307–309, 310
Mora Creek W, III, Supp, fig 7 (p 57), pp 298–299
Mora and Manuelitos creeks W, III, Supp, pp 77–78
Moreno Valley W, III, Supp, fig 3 (p 54)
northwestern W, 1875, p 87
Nutria, vicinity of W, III, pp 552–553
Nutria fold W, III, figs 163–166 (p 562)
Pinos Creek W, III, Supp, p 176
Purgatory River H, Mon VII, p 14
Raton Hills H, Atlas, sheet XVIII
Raton Mountains H, Mon VII, p 13
Raton Pass W, III, Supp, p 206
Rio Grande, Canadian Plains to W, III, Supp, pl I (p 406)

Section, geologic, in New Mexico, Rio Grande, Colorado River, Arizona, to ..W, III, figs 119–122 (p 288)
in New Mexico, Rio Puerco....W, 1875, p 104
Rio San José....W, 1875, fig 3 (p 106)
Rio Torreones....W, 1875, p 104
San José River, head of....W, III, fig 153 (p 534)
Santa Rita Range....W, III, fig 149 (p 516), p 517
Sixmile Creek, vicinity of....W, III, Supp, p 243
Stinking Spring....W, III, fig 123 (p 290), pp 550–551
Tecolote Valley....W, III, Supp, fig 12 (p 59)
Turkey Mountain....W, III, Supp, p 92
Vermejo Creek....W, III, Supp, fig 29 (pp 248–249), fig 30 (p 250), fig 31 (p 251), fig 32 (p 252), figs 33 and 34 (p 253), pp 257, 258–259; W, 1877, p 1300
coal bed on....W, III, Supp, pp 106, 108, 109, 110, 121, 122
vicinity of....H, Ann 3, p 57; H, Ann 1–3, p 157
Vermejo Park, coal bed in....W, III, Supp, p 114
Willow Creek....W, III, Supp, fig 48 (p 279)
Zuni Range....W, III, fig 168 (p 563)
in North Dakota, Fargo....H, Ann 6, p 301
in Northwest, Cretaceous rocks of....H, Ann 4, p 87; H, Mon VI, p 14
in Plateau Province....H, Ann 9, p 85; UM, pp 40–42
in South Dakota, Amphibious Creek....BH, fig 17 (p 122), fig 20 (p 141), p 158
Bear Butte....BH, p 196
Bear Lodge, vicinity of....BH, p 180
Beaver Creek....BH, p 33, fig 3 (p 34), p 182
vicinity of....BH, p 155
Beaver Creek Gap....BH, p 178
Belle Fourche Creek....BH, p 165
vicinity of....BH, p 180
Belle Fourche Valley....BH, fig 24 (p 147)
Black Hills....H, Ann 3, p 12; H, Ann 1–3, p 112; H, Uncl 16, p 17; BH, p 40, fig 25 (p 206)
Carboniferous rocks....BH, p 108
Red Beds....BH, p 131
Box Elder Creek....BH, fig 13 (p 91), p 126
Castle Creek....BH, p 120
Cheyenne River....BH, pp 31, 33
vicinity of....BH, pp 183, 184
Custer Peak, Carboniferous plateau at....BH, fig 15 (p 117)
French Creek....BH, fig 12 (p 90), pp 181, 234
Minne Katta Creek....BH, p 121
Missouri River....H, Mon IX, p xxiii
Cretaceous rocks....BH, p 171
Old Woman Butte....BH, p 30
Rapid Creek....BH, fig 10 (p 85), fig 14 (p 94), fig 18 (p 124), p 125, fig 21 (p 142)
Red Canyon Creek....BH, pp 140, 157, 182
Red Valley....BH, p 128, fig 19 (p 140), fig 20 (p 141), fig 21 (p 142), fig 22 (p 144), fig 23 (p 146)
Carboniferous plateau near....BH, fig 16 (p 119)
Redwater Valley....BH, pp 160, 163
Slate Creek....BH, p 99
Spearfish Creek....BH, p 161
vicinity of....BH, fig 22 (p 144)
Spring Creek....BH, fig 9 (p 82), fig 11 (p 87), p 241, fig 28 (p 244), p 257

Section, geologic, in South Dakota, Spring Creek, vicinity of.....BH, p 185
in South Dakota, Sundance, vicinity of.....BH, p 154
Sundance Hills BH, fig 23 (p 146)
in Utah, Abajo Mountains H, Ann 9, p 85
Abajo Mountains to Antelope Park, Colorado.....H, Atlas, sheet xvii
Aquarius Plateau.....HP, Atlas
Aspen Plateau to the Desert.....K, Atlas
Awapa Plateau.....HP, Atlas
Bear River, vicinity of.....H, Ann 4, pp 150–151, 152
Bear River City H, Ann 4, figs 1, 2 (p 153)
Bear River Range.....H, Ann 11, pp 598, 599
Beaver Creek Range W, III, fig 7 (p 28)
Book Cliffs, vicinity of.....H, Ann 10, pl XII (p 184), p 185
Bowl Creek Arch HM, fig 46 (p 45)
Castle Valley W, III, figs 124–130 (pp 292–293), fig 132 (p 295)
Cataract Canyon.....UM, fig 10 (p 57), pp 58–59
Cliff Spring.....H, Ann 10, p 184
Coal Creek K, I, pp 211–212
Coalville H, Ann 6, pp 437–454
Echo Canyon to.....H, Ann 6, fig 52 (p 439), pp 439–440
Cottonwood Canyon.....K, I, pp 165–172
Desert Creek.....H, Ann 10, p 174
Dirty Devil River.....W, III, p 281; W, III, Supp, pp 136–137
East Fork Canyon.....HP, fig 4 (p 244)
Echo Canyon, Coalville to H, Ann 6, fig 52 (p 439), p 440
Evanston H, Ann 5, p 194
Flaming Gorge.....K, I, p 260
Grand River.....H, Ann 9, p 83; H, Ann 10, pp 171, 172
Grand River Valley H, Ann 10, pl XII (p 184)
Green River Valley to White River Plateau, Colorado..H, Atlas, sheet xvii
Gunnison, vicinity of.....HP, p 164
Henry Mountains, Cretaceous rocks HM, p 4
Juratrias rocks HM, p 6
Pulpit Arch HM, fig 31 (p 33), fig 73 (p 148)
high plateaus.....HP, Atlas
House Range W, III, figs 3–5 (p 27), fig 73 (p 167)
Jacobs Pool W, III, fig 64 (p 160)
Joes Valley.....W, III, fig 107 (p 268)
Kaiparowits Plateau HP, Atlas
Kanab region.....HP, p 151
Lewis Creek Canyon.....HM, fig 40 (p 40)
Lewis Creek Plain.....HM, fig. 61, (p 128)
Manti, vicinity of.....W, III, fig 106 (pp 267–268)
Markagunt Plateau.....HP, Atlas
Mineral Range.....W, III, fig 8 (p 29)
Monroe Amphitheater HP, pp 240–242
Mount Hillers.....HM, fig 25 (p 30)
Mount Pennell HM, fig 35 (p 36)
Mount Thurber.....HP, p 239
Ogden Canyon H, Ann 6, fig 45 (p 195); K, I, pp 174–177
Ogden Peak.....H, Ann 6, fig 44 (p 193)
Ophir City.....W, III, fig 72 (p 166)
Oquirrh Range.....W, III, figs 1 and 2 (p 26)
Pahvan Butte W, III, fig 52 (p 137)
Pahvan Range.....W, III, fig 33 (p 59)

Section, geologic, in Utah, Paria.....W, III, p 279
in Utah, Paria, vicinity of.....H, Ann 9, p 85; W, III, fig 109 (pp 270–272)
Paria Creek.....W, III, fig 63 (p 159); W, III, Supp, p 136
Paunsagunt Plateau.....HP, Atlas
Pine Valley Mountains to Le Verken Creek.....W, III, fig 110 (p 273)
Price River.....W, III, fig 108 (p 269)
Provo Valley, vicinity of.....W, III, fig 32 (p 58)
Red Canyon.....UM, fig 12 (p 143)
Sage Plain to Alpine Plateau, Colorado.....H, Atlas, sheet XVII
Salina, vicinity of.....HP, p 164; W, III, fig 132 (p 295), fig 133 (p 296)
Salt Creek.....H, Ann 9, pp 71, 82
San Juan Valley to San Juan Mountains, Colorado.....H, Atlas, sheet XVII
San Pete Valley to San Rafael Swell.....HP, p 160
Sam Pitch Plateau.....W, III, fig 60 (p 157)
Sevier fault.....W, III, fig 25 (p 50)
Sevier Plateau.....HP, p 242, Atlas
Sevier River, vicinity of.....W, III, fig 61 (p 158)
Sierra La Sal.....H, Ann 9, pl VI (p 62), pl VIII (p 96)
Stansbury Range.....W, III, fig 97 (p 239)
Toquerville, vicinity of.....W, III, figs 111–114 (p 284)
Tushar Plateau.....HP, Atlas
Uinta Mountains.....HP, pp 57–151, Atlas; ECR, fig 51 (p 155)
desert to.....K, Atlas
Juratrias rocks.....UM, pp 152–153
Vermilion Cliff.....HP, fig 3 (p 150)
Virgin River.....W, III, fig 60 (p 158)
Wasatch Plateau.....HP, p 166
Wasatch Range.....K, I, pp 155–156; K, II, p 343; W, III, fig 95 (p 234), fig 96 (p 235)
Washington, vicinity of.....W, III, fig 134 (p 296)
Waterpocket flexure.....HM, fig 2 (p 12)
Weber River.....H, Ann 6, p 444; K, I, pp 157–165
Whirlpool Canyon.....UM, fig 13 (p 145)
in Wyoming, Almy.....H, Ann 6, p 539
Amethyst Mountain.....H, Ann 11, pl XXVII (p 46)
Antelope Creek.....K, I, p 257
Bear River, vicinity of.....H, Ann 11, pl LXVII (p 574)
Big Sandy River.....H, Ann 11, p 526
Bitter Creek.....H, Bull, vol III, No 1, pl XXVI (p 186)
Bitterroot Creek, vicinity of.....H, Ann 11, pl XLIX (p 526), pl LIII (p 540)
Black Butte...H, Ann 6, p 334, fig 54 (p 526), pp 527–528; H, Ann 7, p 373
Black Buttes station.....H, Ann 11, p 222
Box Elder Creek.....K, II, p 34
Bridger station, vicinity of.....H, Ann 6, p 537
Buffalo Fork.....H, Ann 11, p 462
vicinity of.....H, Ann 12, I, pl XX (p 227)
Buffalo Fork Mountains.....H, Ann 11, pl XLIV (p 470)
Bull Lake.....H, Ann 12, I, p 262
Bull Lake Fork.....H, Ann 12, I, pl XXX (p 238), pl XXXVIII (p 245), pp 246–248, pl XL (p 248)
Campbells Fork, vicinity of.....H, Ann 12, I, pl XXXIII, (p 241), pp 242, 244
Carbon.....H, Ann 6, pp 331–521; H, Mon VII, p 18; K, II, pp 145–146
Chugwater Creek.....K, II, p 34
Colorado group.....K, II, pp 42

Section, geologic, in Wyoming, Como Ridge....K, II, p 91
in Wyoming, Crow Creek....H, Ann 11, pl LX (p 554)
Dry Creek Canyon....H, Ann 12, I, pl XXXVII (p 244)
East Gallatin Range....H, Ann 12, II, pl XIV (p 26)
Electric Peak, Sepulchre Mountain, and Mount Evarts....H, Ann 12, II, pl X (p 20)
Evanston....H, Ann 6, p 338; H, Mon VII, p 19
Evarts, Mount....H, Ann 12, II, pl VI (p 10), pl VII (p 12), p 13
Fillmore, east of....H, Ann 11, p 125
Fontenelle Creek, vicinity of....H, Ann 11, pl LIII (p 540)
Fontenelle Valley....H, Ann 11, pp 537–538
Fort Steele, vicinity of....H, Ann 4, p 136; K, II, p 154
Granite Canyon....K, I, p 130; K, II, p 30
Great Plains to Rawlings Peak....K, Atlas
Green River....H, Ann 4, p 61; H, Ann 11, p 532, UM, pp 156–158
Rawlings Springs to, along Union Pacific Railroad....H, Bull, vol III, No 1, pl XXVI (p 186)
Green River Basin to Wyoming Range....H, Ann 11, pl XLIX (p 526), pl LIII (p 540)
Green River Canyon....H, Ann 12, I, pl XXVI (p 233)
Green River station....H, Ann 6, pp 336, 536
Gros Ventre Basin....H, Ann 11, p 454; H, Ann 12, I, pl XX (p 227)
Gros Ventre Canyon....H, Ann 6, p 266
Gros Ventre Mountains....H, Ann 11, pl XL (p 450), pl XLI (p 456); H, Ann 12, I, pl XIII (p 208)
Gros Ventre River....H, Ann 6, p 21; H, Ann 12, I, p 221
Hams Fork....H, Ann 11, p 532
vicinity of....H, Ann 11, pl LIII (p 540)
Hoback Canyon Ridge to John Day Ridge....H, Ann 12, I, pl IV (p 189)
Horse Creek, vicinity of....H, Ann 11, pl XLIX (p 526), pl LIII (p 540); H, Ann 12, I, pl XXXI (p 239); K, I, p 129
John Day Ridge to Hoback Canyon Ridge....H, Ann 12, I, pl IV (p 189)
John Day River....H, Ann 11, pl LV (p 544), p 545
vicinity of....H, Ann 11, pl LIV (p 542)
Junction Valley....H, Ann 12, II, pl XXVI (p 46)
La Barge Creek, vicinity of....H, Ann 11, pl LIII (p 540)
Lake Creek, vicinity of....H, Ann 11, pl XLIX (p 526)
Laramie Hills....H, Uncl 16, p 17
Laramie Plains....K, II, p 80
Little Sandy River....H, Ann 11, p 525
Marsh Creek....H, Ann 11, p 529
vicinity of....H, Ann 11, pl XLIX (p 526), pl LIII (p 540)
Mount Leidy, vicinity of....H, Ann 11, p 458, pl XLII (p 462)
Mount Washburn....H, Ann 12, II, pl XVII (p 32)
Muddy Creek....K, I, p 334
Niobrara River, headwaters of....BH, fig 2 (p 28)
North Fork Little Wind River....H, Ann 12, pl XLIV (p 252), pl XLV (p 253), pp 253–254
North Platte River....K, II, p 155
Oyster Ridge....H, Ann 11, pl LII (p 532), p 533
Red Desert to....K, Atlas
Piney Creek, vicinity of....H, Ann 11, pl XLIX (p 526), pl LIII (p 540)
Point of Rocks....H, Bull, vol III, No 1, pl XXVI (p 186)
vicinity of....H, Ann 6, pp 529–530, 532–533

Section, geologic, in Wyoming, Pumpkin Butte H, Mon VII, p 11
in Wyoming, Rawhide Butte BH, fig 1 (p 27)
Rawlings Peak H, Ann 11, pl V (p 124)
Great Plains to K, Atlas
Rawlings Springs to Green River, along Union Pacific Railroad H, Bull, vol III, No 1, pl XXVI (p 186)
Red Canyon .. H, Ann 12, I, pl XXX (p 238), pl XXXIV (p 243), pl XLII (p 250)
Red Desert H, Bull, vol III, No 1, pl XXVI (p 186), K, Atlas
Rock Cut H, Ann 6, p 538
Rock Springs H, Ann 6, p 335; H, Bull, vol III, No 1, pl XXVI (p 186)
Sage Creek, vicinity of H, Ann 12, I, pl XLII (p 250)
Salt River Range H, Ann 11, pl LVI (p 546), p 574, pl LVII (p 548), pl LVIII (p 550), pl LIX (p 552)
Salt Wells, vicinity of H, Ann 6, p 532; H, Ann 11, pl VI (p 128)
Separation H, Bull, vol III, No 1, pl XXVI (p 186)
Sheep Mountain H, Ann 11, pl I (p 80)
Signal Peak K, I, p 130
Simpsons Ridge K, I, p 323
Slate Creek, vicinity of H, Ann 11, pl LIII (p 540)
Smiths Fork, geology of H, Ann 11, p 577, pl LXVIII (p 578), p 579
Snake River H, Ann 12, I, pp 197, 199
Sulphur Creek H, Ann 6, fig 53 (p 451), p 452; UM, pp 158–160
Sweetwater Valley H, Ann 11, pl II (p 100), pl III (p 104) pl IV (p 108)
Table Mountain K, II, p 30
Table Rock H, Ann 6, p 525
Teton district, Paleozoic formations in H, Ann 11, p 480
Teton Range H, Ann 6, fig 46 (p 218); H, Ann 11, pl XXXIV (p 416), pl XXXVII (p 422), p 423
Thomas Fork to Smith Fork H, Ann 11, pl LXIX (p 582)
Torreys Creek, vicinity of H, Ann 12, I, pl XXXI (p 239)
Twin Creek H, Ann 11, pl LXVII (p 574)
Warm Spring Creek, vicinity of H, Ann 12, I, pl XXIX (p 236)
Washakie H, Bull, vol III, No 1, pl XXVI (p 186)
western H, Ann 11, p 623
Idaho, southeastern, and H, Bull, vol V, No 1, p 120
Wind River, vicinity of H, Ann 12, I, pp 238–239
Wind River Range H, Ann 6, p 20; H, Ann 11, pl I (p 80); H, Ann 12, I, pl XXVI (p 233), pl XXVIII (p 235)
Wyoming Range H, Ann 11, p 541, pl LIV (p 542); H, Ann 12, I, pl IX (p 201)
Green River Basin to H, Ann 11, pl XLIX (p 526), pl LIII (p 540)
Yellowstone Park, Amethyst Mountain ... H, Bull, vol V, No 1, fig 1 (p 126)
Tower Falls H, Ann 6, p 127
White Mountain Hot Springs H, Ann 5, fig 21 (p 73)
Yellowstone Valley H, Ann 12, II, pl II (p 4), pl IV (p 8)
Section, thin. (See name of rock.)
Sections, profile, and other illustrations in Rocky Mountain region H, Uncl 3
Sedimentary rocks of Colorado, central W, III, pp 356–403
of Colorado; Eagle, Grand, and Gunnison rivers H, Ann 8, pp 110–162
Front Range, east of H, Ann 7, pp 93–137
Grand River district H, Ann 9, pp 70–92
San Juan drainage basin H, Ann 9, pp 180–190
San Juan region H, Ann 8, pp 210–228
Sangre de Cristo Range H, Ann 9, pp 113–127
White River district H, Ann 10, pp 71–86, 93–97, 105–111

Sedimentary rocks of Colorado, Plateau Province.....UM, pp 37-73
of Utah, Grand River district.....H, Ann 9, pp 70-92
White River district.....H, Ann 10, pp 71-86, 93-97, 105-111
(See, also, Silurian; Devonian, etc.)
Seetoya Mountains, Nevada, granite of.....K, I, pp 74-75
Selish language, vocabulary of.....Eth, I, pp 267-283
(See, also, Ethnology and archæology.)
Sennett (G. B.), further notes on the ornithology of the lower Rio Grande of Texas, from observations made during the spring of 1878....H, Bull, vol v, No 3, pp 371-440
notes on the ornithology of the lower Rio Grande of Texas, from observations made during the season of 1877...H, Bull, vol iv, No 1, pp 1-66
Sepulchre Mountain, Wyoming, geology of.....H, Ann 12, II, pp 15-19
Severance (M. S.), report of.....W, 1872, pp 55-56
Severance (M. S.) and Yarrow (H. C.), notes upon human crania and skeletons collected by the expeditions of 1872-1874....W, VII, pp 391-397
Sevier Plateau, Utah, geology of.....HP, pp 225-251
Sevier River Basin, Utah, agriculture in.....H, Ann 4, pp 244-247
Sevier Valley, Utah, geology of.....HP, pp 211-224
irrigable lands of.....AL, pp 128-149
Shale, analysis of, from Wyoming, Green River.....K, II, p 243
Shell heaps of Aleutian Islands, on succession in.....Eth, I, pp 41-91
(See, also, Ethnology and archæology.)
Shells of Nebraska, catalogue of land and fresh-water.....H, Bull, vol III, No 3, pp 697-704
Shihwapmukh language, vocabulary of.....Eth, I, pp 247-265
(See, also, Ethnology and archæology.)
Shinarump group, exposures of.....UM, p 54
of Uinta Mountains.....UM, pp 150-151
of Utah, high plateaus.....HP, pp 144-148
Shooswaap language, vocabulary of.....Eth, I, pp 247-265
(See, also, Ethnology and archæology.)
Shoshone Lake (Tertiary), extent of.....K, I, pp 456-457
Shoshone Range, Nevada, geology of.....K, II, pp 618-624, 631-643
granite of.....K, I, pp 77-79
Shufeldt (R. W.), osteology of Cathartidæ.....H, Ann 12, I, pp 727-806
osteology of Eremophila alpestris.....H, Ann 12, I, pp 627-652; H, Bull, vol VI, No 1, pp 119-147
osteology of Lanius ludovicianus excubitorides.....H, Bull, vol VI, No 2, pp 351-359
osteology of North American Tetraonidæ.....H, Ann 12, I, pp 653-726; H, Bull, vol VI, No 2, pp 309-350
osteology of Speotyto cunicularia hypogæa.....H, Ann 12, I, pp 593-626; H, Bull, vol VI, No 1, pp 87-117
Shwoyelpi language, vocabulary of.....Eth, I, pp 248-265
(See, also, Ethnology and archæology.)
Sickle Creek, Wyoming, geology near.....H, Ann 11, p 546
Sidney Barracks, Nebraska, astronomical determinations at.....W, II, pp 417-432
Siebold (C. T. von), on Artemia fertilis Verrill from Great Salt Lake, Utah Territory.....H, Ann 12, I, pp 459-463
on parthenogenesis in Artemia salina.....H, Ann 12, I, pp 463-466
Sierra El Late, Colorado, geology of.....H, Ann 9, pp 272-274
Sierra Madre, New Mexico, geology of.....W, 1875, pp 78-88
beds of western slope of.....W, IV, pt II, pp 1-13

Silica, infusorial, analysis of, from Nevada, Kawsoh Mountains K, II, p 768
Silliman (B.), the telluride ores of the Red Cloud and Cold Spring mines, Gold Hill.....H, Ann 7, pp 688–691
Silurian fossils; invertebrates of Fortieth Parallel region.....K, IV, pp 17–25, 205–246
invertebrates of Nevada and New Mexico W, Uncl 6, pp 6–14
of Nevada, Utah, New Mexico, and Arizona W, IV, pp 32–78
of Southwest W, IV, pp 32–78
(See, also, Invertebrates, fossil.)
of Montana, Utah, and Wyoming.....H, Ann 6, pp 431–432, 463–465, 479–487
(See, also, Vertebrates, fossil; Invertebrates, fossil.)
Silurian rocks of Basin Range W, III, pp 180–186
of Black Hills BH, pp 80–107
of Colorado, central W, III, pp 355–361
Eagle and Grand rivers.....H, Ann 8, pp 110–114
northwestern H, Ann 10, p 23
Sangre de Cristo Range.....H, Ann 9, p 113
of Idaho, Bear River Range H, Ann 11, p 613
of Wyoming, Sweetwater Valley H, Ann 11, pp 101–103
Wind River Range.....H, Ann 11, pp 70–73
Silurian and Cambrian rocks of Great Basin.....K, I, pp 184–221
Silver in New Mexico, Santa Fe, vicinity of.....W, III, Supp, pp 403–404
Silver Bend district, Nevada, notes on W, 1871, pp 41–42
Silver Era Peak, California, geology of.....W, 1878, pp 181–183
Silver Mountain district, California, notes on.....W, 1878, pp 88–89
Silver ore, treatment of, in Colorado K, III, pp 606–616
Silver Peak and Red Mountain districts, Nevada, notes on W, 1871, pp 48–49
Silver and gold mines of Colorado.....H, Ann 3, pp 87–89; H, Ann 1–3, pp 187–189
Silver mining in Colorado, Georgetown district K, III, pp 589–605
in Colorado, Snake River region K, III, pp 617–624
Sinter, siliceous, analysis of, from Nevada, Virginia Range K, II, p 826
Sit-ka-kwan language, vocabulary of.....Eth, I, pp 121–133
(See, also, Ethnology and archæology.)
Sioux Lake (Tertiary), extent of K, I, pp 451–454
Sirenia, bibliography of Cete and.....H, Bull, vol VI, No 3, pp 399–562
(See, also, Vertebrates.)
Skat-kwan language, vocabulary of Eth, I, pp 121–133
(See, also, Ethnology and archæology.)
Skeletons and crania collected in 1872–1874, notes on.....W, VII, pp 391–397
(See, also, Ethnology and archæology.)
Skit-a-get language, vocabulary of Eth, I, pp 136–142
(See, also, Ethnology and archæology.)
Skokomish Reservation, Washington, Twana Indians of, customs, language, etc., of H, Bull, vol III, No 1, pp 57–114
(See, also, Ethnology and archæology.)
Skoylpeli language, vocabulary of Eth, I, pp 248–265
(See, also, Ethnology and archæology.)
Skull from Chaco Canyon, New Mexico, report on H, Ann 10, pp 453–457
(See, also, Human remains; Cranium; Ethnology and archæology.)
Skulls from Santa Barbara Islands, California, observations on...W, VII, pp 277–292
(See, also, Human remains; Cranium; Ethnology and archæology.)
Skulls and skeletons collected in 1872–1874, notes on W, VII, pp 391–397
(See, also, Human remains; Cranium; Ethnology and archæology.)
Slate of Black Hills, petrography of.....BH, pp 476–483
Slate Creek, Wyoming, geology near H, Ann 11, pp 531–532

Smith (S. I.), report on the amphibod crustaceans H, Ann 7, pp 608–611
Smiths Fork, Wyoming, geology near H, Ann 11, pp 577–580
Smoking Creek, Wyoming, geology near H, Ann 11, p 554
Smoky Valley Range, Nevada, geology and mines of K, III, pp 393–404
Snake River, Idaho-Wyoming, course and character of H, Ann 6, pp 267–270
Grand Canyon of, geology of H, Ann 11, pp 437–438
geology along H, Ann 12, I, pp 196–201
Snake River Range, Idaho-Wyoming, geology of H, Ann 11, pp 424–425
Snake River region, Colorado, silver mining in K, III, pp 617–624
Snake River Valley, Wyoming-Idaho, geology of lower H, Ann 11, pp 405–410
resources of H, Ann 6, pp 86–91
Sneffels, Mount, Colorado, ascent of H, Bull, vol I, ser 2, No 3, pp 193–199
Soapstone pots, method of manufacture of W, VII, pp 117–121
(See, also, Ethnology and archæology.)
Soda, analysis of, from Colorado, Soda Lake H, Ann 4, p 187
Soda Lakes, Nevada, description of K, I, pp 510–514
Soda Springs, Idaho, geology near H, Ann 11, pp 590–596
Soil, analysis of, from Arizona, Big Dry Fork W, III, pp 587, 597
analysis of, from Arizona, Camp Grant W, III, pp 592, 597
from Arizona, Chevelons Fork W, III, pp 586, 597
Ehrenberg, vicinity of W, 1876, p 220
Gila River W, III, pp 594, 597
Mogollon or Black Mesa W, VI, p 23
San Francisco Mountain region W, III, pp 589, 597
San Pedro River, vicinity of W, III, pp 590, 597
from California, Point of Rocks W, 1876, p 221
from Colorado, Carlisle W, 1875, pp 130, 131
Culebra Valley W, 1875, p 132
from Kansas, Smoky Hill Valley H, Ann 9, p 289; H, Bull, vol II, No 3, p 218
Nebraska, Blue River (alluvium) H, Ann 8, p 258
Dakota City (alluvium) H, Ann 8, p 258
Elkhorn River (alluvium) H, Ann 8, p 258
Fort Kearney, vicinity of H, Ann 8, p 261
Kearney (loess) H, Ann 8, p 246
Lincoln, vicinity of H, Ann 8, p 261
Loup River (loess) H, Ann 8, p 246
North Platte, vicinity of H, Ann 8, p 261
Omaha, vicinity of (loess) H, Ann 8, p 246
Platte River (alluvium) H, Ann 8, p 258
Republican River (alluvium) H, Ann 8, p 258
Republican Valley (loess) H, Ann 8, p 246
Sutton (loess) H, Ann 8, p 246
from Missouri, Hannibal (loess) H, Ann 8, p 246
from Nevada, Browns station K, II, p 744
from New Mexico, Abiquiu, vicinity of W, 1875, p 132
Las Vegas W, 1875, p 136
Mimbres W, III, pp 581, 597
northwestern W, III, pp 582, 597
Trinidad W, 1875, p 137
from Utah, Dugway station K, II, p 467
Ibenpah Mountains K, II, p 474
Salt Lake City, vicinity of K, II, p 434
White Rock Pass K, II, p 467
of Black Hills BH, pp 313–315
(See, also, Loess; Alluvium.)

Sopris Peak, Colorado, geology of H, Ann 8, pp 61–63
South America, springs, thermal of H, Ann 12, II, pp 329–332
South Dakota, Bear Lodge region, geology of BH, pp 283–289
Castle Creek district, mineral resources of BH, pp 261–266
French Creek district, mineral resources of BH, pp 226–238
Rapid Creek, mineral resources of BH, pp 267–272
Spring Creek district, mineral resources of BH, pp 238–260
South Park, Colorado, geology of H, Ann 3, pp 79–81; H, Ann 1–3, pp 179–181; H, Ann 7, pp 36–39, 212–225
topographic features of H, Ann 9, pp 419–431
South Pass, Wyoming, geology between Fort Bridger and H, Ann 4, pp 35–41
geology between Fort Fetterman and H, Ann 4, pp 24–35
South Platte drainage basin, Colorado, cultivable areas on ... H, Ann 10, pp 323–326
Southwest, ferns of W, VI, pp 299–340
Span worm, cranberry, description of H, Ann 10, p 521
Spanish Peaks, Colorado, description of H, Bull, vol III, No 3, pp 551–552
volcanic rocks of H, Ann 9, pp 131–136
Spanish Peaks region, Colorado, geology of W, 1879, pp 271–281
Sparrow, English, status of, in America, with special reference to Western States and Territories H, Bull, vol V, No 2, pp 175–193
(See, also, Vertebrates.)
Speotyto cunicularia hypogæa, osteology of H, Ann 12, I, pp 593–626; H, Bull, vol VI, No 1, pp 87–117
(See, also, Vertebrates.)
Spiders, descriptions of two new, from Colorado .. H, Bull, vol III, No 2, pp 528–529
(See, also, Invertebrates.)
Spokan language, vocabulary of Eth, I, pp 249–265
(See, also, Ethnology and archæology.)
Spring Canyon, Montana, geology of H, Ann 6, pp 109–115
Spring Creek district, South Dakota, mineral resources of BH, pp 238–260
Spring Valley district, Nevada, notes on W, 1871, p 39
Springs, altitudes of lakes and W, Uncl 16, pp 172–180
deposit from, analysis of, from Yellowstone Park, Alum Creek . H, Ann 6, p 137
analysis of, from Yellowstone Park, Gardiners River H, Ann 6, p 125
in Colorado, Colorado City H, Ann 3, pp 118–120; H, Ann 1–3, pp 116–118
in Idaho, Bear River, vicinity of .. H, Ann 5, pp 152–154; H, Ann 11, pp 590–596
in Wyoming, Gardiners River H, Ann 5, pp 64–75
Sweetwater district H, Ann 11, pp 54–55
Springs, thermal, definition, geological features, therapeutics, physical condition, etc., of H, Ann 12, II, pp 355–426
deposits of, physical and chemical features of H, Ann 12, II, pp 398–416
in Colorado, Colorado Springs, vicinity of H, Ann 6, pp 102–103, 175
in United States W, III, pp 145–155
in Utah W, III, pp 256–257
Ogden and Brigham, vicinity of H, Ann 6, p 175
in Yellowstone Park H, Ann 5, pp 91–97, 197–198; H, Ann 6, pp 122–125, 128–130, 135–143, 176–178; H, Ann 12, II pp 63–453
Springs, thermal, and geysers of various portions of the world H, Ann 12, II, pp 304–353
Springs, mineral, of Colorado, central W, III, pp 478–487
of New Mexico, Las Vegas W, III, Supp, pp 405–406
Ojos Calientes W, III, pp 613–616
(See, also, Water, mineral.)

Squirrels, arboreal, synonymatic list of America ...H, Bull, vol IV, No 4, pp 877–887
(See, also, Vertebrates.)
Stakhin-kwan language, vocabulary of Eth, I, pp 121–133
(See, also, Ethnology and archæology.)
Star district, Nevada, mining in K, III, pp 314–316
Stars, declination of 2018, catalogue of W, Uncl 15
Staurolite, thin section of, from Colorado, Red Creek K, VI, pl 2
Steatite cooking pots, plates, and food vessels, from graves of southern California.....W, VII, pp 93–116
(See, also, Ethnology and archæology.)
Stevenson (J.), list of mammals and birds collected in Wyoming, 1879 H, Ann 4, pp 461–466
preliminary report on Spanish Peaks region W, 1879, pp 271–281
report on the geology of a portion of Colorado examined in 1873.....W, III, pp 303–501
report upon geological examinations in southern Colorado and northern New Mexico.....W, III, Supp, pp 3–420
Stone, miscellaneous objects made of, from graves of southern California....W, VII, pp 190–217
(See, also, Ethnology and archæology.)
Stone implements of southern California.....W, VII, pp 49–69
(See, also, Ethnology and archæology.)
Stone pipes from graves of southern California.....W, VII, pp 125–134
(See, also, Ethnology and archæology.)
Stone weapons, methods of making.....H, Bull, vol III, No 3, pp 547–549
(See, also, Ethnology and archæology.)
Stones, perforated, from graves of southern California.....W, VII, pp 135–189
(See, also, Ethnology and archæology.)
Stratigraphy of Colorado, Eagle, Grand, and Gunnison rivers..H, Ann 8, pp 106–162
of Colorado, Front Range, east slope of.....H, Ann 7, pp 144–153
Grand River district.....H, Ann 9, pp 64–92; H, Ann 10, pp 178–185
White River district.....H, Ann 10, pp 71–86
of Colorado Plateau.....W, III, pp 156–187, 265–289
of Utah, Grand River district.....H, Ann 9, pp 64–92; H, Ann 10, pp 178–185
White River district.....H, Ann 10, pp 71–86
(See, also, Sedimentary rocks.)
Streets (T. H.), description of Cambarus couesi, a new species of crawfish from Dakota.....H, Bull, vol III, No 4, pp 803–804
Stretch (R. H.), report upon new species of Zygænidæ and Bombycidæ collected in portions of California and Arizona, 1871–1873.....W, V, pp 795–802
Stuart (G.), notes on the climate of Montana H, Ann 6, pp 809–812
Sublette Creek, Wyoming, geology near H, Ann 11, p 576
Sublette Range, Wyoming, geology of H, Ann 11, pp 580–581
Sucia Islands, fossils from H, Bull, vol II, No 4, pp 351–374
Sulphur Creek groups, exposures of.....UM, p 50
Sumner district, California, notes on W, 1876, p 65
Survey, methods of.....W, I, pp 331–404
under Lieutenant Wheeler, sketch of.....W, I, pp 21–146
Surveys, national, origins, functions, progress, cost, etc., of.....W, I, pp 415–479
Surveys and explorations in western North America, 1500–1800, account of....W, I, pp 481–764
Sweden, primitive lapidarian sculptures in.....Eth, V, pp 28–31
Sweetwater group of Wyoming, Sweetwater Valley H, Ann 11, pp 110–112

Sweetwater Mountains, Nevada, geology of.....W, 1878, pp 173–175
Sweetwater region, Wyoming, agriculture in.....H, Ann 4, pp 223–226
geology of.....H, Ann 11, pp 3–158
Sweetwater River, Wyoming, geology near.....H, Ann 4, pp 29–34
Switzerland, primitive lapidarian sculptures in.....Eth, v, pp 21–22
(See, also, Ethnology and archæology.)
Syenite of Nevada, Cortez Range, microscopic petrography of.....K, vi, pp 81–82
of Nevada, Washoe district.....K, iii, pp 21–25
Sylvanite, analysis of, from Colorado, Gold Hill, Red Cloud mine..H, Ann 10, p 152
Symons (T. W.), report of.....W, 1877, pp 1257–1262; W, 1878, pp 113–120; W, 1879, pp 214–223
Tahoe, Lake, California, general features of.....W, 1877, pp 1287–1288
Tait language, vocabulary of.....Eth, i, pp 268–283
(See, also, Ethnology and archæology.)
Taku-kwau language, vocabulary of.....Eth, i, pp 121–133
(See, also, Ethnology and archæology.)
Talcose rock, analysis of, from Nevada, Star Canyon.....K, ii, p 726
Tanta-kwau language, vocabulary of.....Eth, i, pp 135–142
(See, also, Ethnology and archæology.)
Taos, New Mexico, geology near.....H, Ann 3, pp 70–72; H, Ann 1–3, pp 170–172
mines near.....H, Ann 3, p 123; H, Ann 1–3, p 119
pueblo of.....W, ii, pp 327–330
Taos Valley, New Mexico, agriculture in.....H, Ann 4, pp 202–204
Tarryall Range, Colorado, topographic features of.....H, Ann 9, pp 411–412
Telluride ores of Red Cloud and Cold Spring mines, Gold Hill, Colorado..H, Ann 7, pp 688–691
Tellurium, analysis of, from Colorado, Magnolia district.....H, Ann 10, p 152
Temescal tin mines, California, notes on.....W, 1876, pp 68–70
Temperature of Colorado, compared with eastern cities.....H, Ann 9, p 355
of Comstock lode.....K, iii, pp 84–86
of Great Basin, notes on.....K, v, pp xvii–xxii
of western States.....H, Uncl 14, pp 185–201
oscillations, diurnal, diagram showing.....W, ii, pls xi–xiii
Temperature and wind movement in western States east of Rocky Mountains...H, Ann 9, pp 677–683
Terrill, Mount, Utah, geology of.....HP, pp 267–268
Tertiary coals of the West.....H, Ann 4, pp 318–329
Tertiary fossils collected in Wyoming and Utah in 1871, list of.....H, Ann 5, pp 375–376
invertebrates; Coleoptera of Rocky Mountains...H, Bull, vol ii, No 1, pp 77–87
crayfish from Wyoming.....H, Bull, vol vi, No 2, pp 391–397
insects, first-discovered traces of.....H, Bull, vol iii, No 4, pp 741–762
from Colorado and Wyoming, account of some.....H, Bull, vol iv, No 2, pp 519–542
Mollusca from Colorado, Utah, and Wyoming.....H, Ann 12, i, pp 41–48
of Fortieth Parallel region.....K, iv, pp 182–197
of North America.....H, Mon xiii
of Plateau province.....UM, pp 102–106, 125–135
of Southwest.....W, iv, pp 206–216
of Utah.....W, iv, pp 206–216
of Utah and Wyoming, list of, collected in 1871.....H, Ann 5, pp 376–377
of West, list of.....H, Bull, vol iii, No 3, pp 611–614
Orthoptera of Rocky Mountains.....H, Bull, vol i, ser 2, No 6, pp 447–449
Physopoda of Colorado.....H, Bull, vol i, ser 2, No 4, pp 221–223

Tertiary fossils; invertebrates; Unionesof Wyoming and Utah, new species of.. H, Bull, vol III, No 3, pp 603–606
invertebrates. (See, also, Invertebrates, fossil.)
plants, description of some obtained in 1870 H, Ann 5, Supp
distribution of, in different groups of H, Ann 7, pp 378–390
forests of Yellowstone Park H, Bull, vol v, No 1, pp 125–132
of North America H, Ann 5, pp 304–318
of North American Lignitic, considered as evidence of the age of the formation H, Ann 8, pp 275–315
of the West H, Mon VII; H, Ann 6, pp 371–427
(See, also, Plants, fossil.)
vertebrates, description of H, Bull, vol IV, No 2, pp 379–396
fishes of shales of Colorado, South Park... H, Bull, vol I, ser 2, No 1, pp 3–5
of shales of Green River, Wyoming H, Ann 4, pp 425–431
fishes, fresh-water, of Rocky Mountains, supplementary notices of.. H, Bull, vol I, ser 1, No 2, pp 49–51
mammals from Wyoming, Sweetwater River, remains of H, Mon I, pp 197–209
of Oregon, John Day River H, Mon I, pp 210–226
of western States and Territories H, Ann 4, pp 340–370; H, Mon I, pp 227–265; H, Mon III
of Wyoming H, Ann 5, pp 353–372
(See, also, Vertebrates, fossil; Invertebrates, fossil; Plants, fossil.)
Tertiary lake basin at Florissant, Colorado H, Ann 12, I, pp 271–293; H, Bull, vol VI, No 2, pp 279–300
Tertiary orography of Fortieth Parallel region K, I, pp 754–761
Tertiary period, American, climate of, as represented in its flora.. H, Ann 7, pp 419–425
relations of North American to European H, Mon III, pp 21–45
Tertiary rocks of Basin Ranges W, III, pp 172–173
of California, southeastern W, 1876, p 175
of Colorado, Eagle, Grand, and Gunnison rivers H, Ann 8, pp 140–161
Grand River district H, Ann 10, pp 182–185
North Park K, II, pp 127–129
northwestern H, Ann 10, pp 34–39
San Juan drainage basin H, Ann 9, pp 189–190
south-central, and New Mexico, north-central W, III, Supp, pp 159–174
White River district H, Ann 10, pp 78–86, 110–111
of Fortieth Parallel region K, I, pp 359–458
of Idaho, Bear River region H, Ann 11, pp 634–641
of Kansas H, Ann 9, pp 278–280; H, Bull, vol II, No 3, pp 211–213
of Missouri region, upper H, Mon IX, pp lxi–lxiv
of Nebraska LOR, 1867, p 173; H, Ann 1, pp 55–56
of New Mexico, north-central, and Colorado, south-central W, III, Supp, pp 159–174
of Utah, Bear River region H, Ann 11, pp 634–641
of Utah, eastern W, III, pp 265–274
Grand River district H, Ann 10, pp 182–185
high plateaus HP, pp 158–159
White River district H, Ann 10, pp 78–86, 110–111
of Western States, mutual relations of Cretaceous and H, Ann 7, pp 431–444
of Wyoming, Green River district H, Ann 11, pp 634–641
Salt Wells, vicinity of H, Ann 11, pp 127–133
Sweetwater Valley H, Ann 11, pp 110–114
Wind River Range H, Ann 11, p 88

Tertiary and Cretaceous formations of the West, mutual relations of.....H, Bull, vol I, ser 1, No 2, pp 5–16
Tertiary and Cretaceous fossils, fishes of, from west of Mississippi River....H, Bull, vol IV, No 1, pp 67–77
invertebrates of the Upper Missouri country.....H, Mon IX
plants of Kansas and Nebraska.....H, Ann 4, pp 370–385
of North America, catalogue of.....H, Ann 10, pp 487–520
of the western Territories.....H, Mon VIII
illustrations of.....H, Uncl 15
(See, also, Vertebrates, fossil; Invertebrates, fossil; Plants, fossil.)
Tertiary and Cretaceous periods of Kansas, notes on.....H, Ann 9, pp 277–294
Teton Mountains, Wyoming, geology of.....H, Ann 6, pp 214–223; H, Ann 11, pp 411–424, 432–438
Teton River, course and character of.....LOR,1868, p 227; H, Ann 2, p 73
Tetraonidæ, North American, osteology of.....H, Ann 12, I, pp 653–726; H, Bull, vol VI, pp 309–350
Texas, astronomical work in New Mexico and.....W, 1879, pp 268–270
birds of Rio Grande, lower.....H, Bull, vol IV, No 1, pp 1–66; H, Bull, vol V, No 3, pp 371–440
of Red River region.....H, Bull, vol III, No 3, pp 655–695
elevations in.....H, Bull, vol V, No 3, pp 461–463; H, Miscl 1 (3d ed), pp 9–10; H, Miscl 1 (4th ed), pp 102–106
fishes of Rio Grande at Brownsville, notes on.....H, Bull, vol IV, No 2, pp 397–406; H, Bull, vol IV, No 3, pp 663–667
Fort Bliss, astronomical work at.....W, 1879, pp 47–81
locusts in.....H, Uncl 14, pp 57–63; App, pp 63–82
Permian beds of, Batrachia and Reptilia of, some new.....H, Bull, vol VI, No 1, pp 79–82
pigs, solid hoofed, apparently established in, discussion of a breed of...H, Bull, vol IV, No 1, pp 295–297
Rio Grande, birds of.....H, Bull, vol IV, No 1, pp 1–66; H, Bull, vol V, No 3, pp 371–440
fishes from, at Brownsville, notes on a collection of.....H, Bull, vol IV, No 2, pp 397–406; H, Bull, vol IV, No 3, pp 663–667
Tineina from.....H, Bull, vol IV, No 1, pp 79–106
Textile fabrics, basket-work, etc., of Indians of southern California.....W, VII, pp 239–250
The Dalles, Oregon, astronomical work at.....W, 1879, pp 17–41
Thin section. (See name of rock.)
Thinolite, analysis of, from Nevada, Carson Desert, Pyramid Lake, and Wadsworth.....K, I, p 528
analysis of, from Utah, Salt Lake Desert.....K, I, p 502
Thomas (C.), agricultural resources of the Territories.....H, Ann 5, pp 205–279
agriculture of Colorado.....H, Ann 3, pp 131–155; H, Ann 1–3, pp 229–251
agriculture of Wyoming.....H, Ann 4, pp 191–264
ancient mounds of Dakota.....H, Ann 6, pp 655–658
descriptions of some new Orthoptera and notes on some species but little known.....H, Bull, vol I, ser 1, No 2, pp 63–71
list and description of new species of Orthoptera.....H, Ann 4, pp 263–284
notes on Orthoptera.....H, Ann 6, pp 719–725
notes on the saltatorial Orthoptera of the Rocky Mountain regions...H, Ann 5, pp 423–466
on the Orthoptera collected by Dr. Elliott Coues in Dakota and Montana during 1873.....H, Bull, vol IV, No 2, pp 481–501

Thomas (C.), physical geography and agricultural resources of Minnesota, Dakota, and Nebraska....H, Ann 6, pp 273–313
report upon the collections of Orthoptera made in portions of Nevada, Utah, California, Colorado, New Mexico, and Arizona, 1871–1874....W, v, pp 843–908
synopsis of the Acrididæ of North America....H, Mon v
study of the manuscript Troano....Eth, v
Thomas (H. G.), ancient mounds of Dakota....H, Ann 6, pp 656–658
Thomas Fork, Idaho, geology near....H, Ann 11, pp 581–582
Thomomys, abstract of study of Geomys and....ECR, pp 217–279
Thompson (A. H.), irrigable lands of that portion of Utah drained by the Colorado River and its tributaries....AL, pp 150–164
report on a trip to the mouth of the Dirty Devil River....ECR, pp 134–145
Thompson (G.), notes on the pueblos and their inhabitants....W, vii, pp 319–324
Thompson Plateau, geology of....H, Ann 11, pp 538–539
Thorell (T.), descriptions of the Araneæ collected in Colorado in 1875 by A. S. Packard, jr....H, Bull, vol iii, No 2, pp 477–529
Thousand Lake Mountain, Utah, geology of....HP, pp 279–283
Three Forks, Montana, geology between Helena and....H, Ann 6, pp 81–82
Three-Pine Canyon, Idaho, geology near....H, Ann 11, p 339
Tiger district, Arizona, notes on....W, 1871, pp 54–55
Tillman (E.), report of....W, 1877, pp 1253–1256
Tillman (S. E.), report of....W, 1878, pp 107–112; W, 1879, pp 209–214
Timber in the Territories....H, Ann 5, pp 218–227
Timber line, elevation of....H, Ann 6, p 751; H, Miscl 1, p 36; H, Miscl 1 (3d ed), p 29; H, Miscl 1 (4th ed), p 140
Timber, pine, destruction of, in Rocky Mountains....H, Ann 7, pp 538–539
Timpahute district, Nevada, notes on....W, 1871, p 44
Tin ore, analysis of, from California, Temescal....W, 1876, p 185
Tineina of Colorado....H, Bull, vol iii, No 1, pp 121–142
of Colorado, distribution of....H, Bull, vol iii, No 1, pp 147–150
of Texas and more northern localities....H, Bull, vol iv, No 1, pp 79–106
of United States and Canada, index to....H, Bull, vol iv, No 1, pp 125–167
(See, also, Invertebrates.)
Tineina and their food plants....H, Bull, vol iv, No 1, pp 107–123
Toano group of mountains, Nevada, geology of....K, ii, pp 517–520
Togwotee Pass, Wyoming, geology near....H, Ann 11, pp 471–473
Tongas language, vocabulary of....Eth, i, pp 135–142
(See, also, Ethnology and archæology.)
Tonto group, exposures of....UM, pp 56–57
Topographic work, methods of....W, i, pp 331–404; H, Ann 10, pp 298–310
origin, functions, progress, cost, etc., of....W i, pp 438–468
Topography, relation of structure to, in Black Hills....BH, pp 210–214
Tortrix, Cranberry, description of....H, Ann 10, p 523
Toyobe Range, Nevada, geology of....K, ii, pp 627–631; K, iii, pp 320–348
granite in....K, i, pp 75–77
Trachorheites of Colorado, Grand River district....H, Ann 9, pp 93–94
of Colorado, Gunnison River....H, Ann 8, pp 168–171
occurrence and character of....H, Ann 10, pp 213–232
White River district....H, Ann 10, pp 111–112
Trachyte, analysis of, from Arizona, Sierra Caliuro....W, iii, pp 648, 651
analysis of, from California, Mount Shasta....K, i, p 604
from Colorado, North Park....K, ii, p 125
between North and Middle parks....K, i, p 604
Steves Fork....K, ii, p 176

Trachyte, analysis of, from Idaho, Shoshone Falls K, I, p 604
analysis of, from Idaho, Snake River, vicinity of K, I, p 604
from Nevada, Euclid Peak K, II, p 522
Pine Nut Canyon K, II, p 701
Truckee Ferry K, II, p 833
Truckee Ferry, Truckee Canyon, Washoe, Virginia Mountains, Peoquop range K, I, p 604
from Oregon, Mount Hood K, I, p 605
from Utah, Midway, vicinity of K, II, p 320
Wasatch Mountains K, I, p 604
from Washington, Mount Rainier K, I, p 604
from Wyoming, Leucite Hills K, I, p 604
characteristics of HP, pp 104–108
of Basin Ranges W, III, pp 255–256
of Black Hills, petrography of BH, pp 488–492
of Colorado, El Late Mountains H, Ann 9, pp 272–273
Gunnison region H, Ann 8, pp 163–168
occurrence and character of H, Ann 10, pp 214–229, 232–245
Rio Grande H, Ann 9, pp 156–157
White River district H, Ann 10, p 112
of Fortieth Parallel region K, I, pp 578–605
microscopic petrography of K, VI, pp 143–162
of Nevada, Washoe district K, III, pp 33–36
of New Mexico, north central W, III, Supp, pp 164–167
of Utah, Grand River district H, Ann 9, pp 94–98
White River district H, Ann 10, p 112
Traverse, logarithm, and altitude tables W, Uncl 11
Tree growth on the plains H, Ann 4, pp 456–457
Trees, fruit and forest, in Nebraska, cultivation of LOR, 1867, pp 131–133, 135–136; H, Ann 1, pp 10–12, 14–16
Trenton group, invertebrate fossils of, from Nevada and New Mexico W, IV, pp 62–78; W, Uncl 6, pp 15–23
invertebrates of, of southwest W, IV, pp 62–78
Trephining, on cranial amulets and prehistoric Eth v
(See, also, Ethnology and archæology.)
Triangulation in Colorado .. H, Ann 10, pp 275–310; H, Bull, vol III, No 3, pp 706–728
in Fortieth Parallel region K, I, pp 764–768
in Wyoming H, Ann 11, pp 651–672
Triassic fossils, invertebrates of Fortieth Parallel region K, IV, pp 99–129, 280–283
of southeastern Idaho H, Ann 12, I, pp 105–118
(See, also, Vertebrates, fossil; Invertebrates, fossil; Plants, fossil.)
Triassic rocks of Basin Ranges W, III, pp 175–176
of Black Hills BH, pp 131–151
of Colorado, central W, III, pp 378–381
Eagle, Grand and Gunnison rivers H, Ann 8, pp 121–124
Front Range H, Ann 8, pp 42–44; K, II, pp 33–37
east of H, Ann 7, pp 95–98
Grand River district H, Ann 9, pp 80–86; H, Ann, 10 pp 178–180
northwestern H, Ann 10, pp 26–28
of Colorado Plateau W, III, pp 282–285
of Fortieth Parallel area K, I, pp 249–284
of Idaho, eastern H, Ann 11, pp 492–494, 622–623
of Utah, Grand River district H, Ann 9, pp 80–86; H, Ann 10, pp 178–180
high plateaus HP, pp 148–150
of Wyoming, Colorado Range K, II, pp 33–37

Triassic rocks of Wyoming, Rawlings Peak, vicinity of....H, Ann 11, p 121
of Wyoming, Sweetwater Valley....H, Ann 11, pp 105–107
western....H, Ann 11, pp 492–494, 622–623
Wind River Range, vicinity of....H, Ann 11, pp 80–82
Red beds of Colorado, Front Range....H, Ann 8, pp 42–44
Trinidad, Colorado, astronomical determinations at....W, II, pp 289–312
geology near....H, Ann 3, pp 55–56; H, Ann 1–3, pp 155–156
Trinidad region, Colorado, geology of....H, Ann 9, pp 192–207
Trinity Mountains, Nevada, mining and milling in....K, III, pp 297–308
Troano, study of the manuscript....Eth, V
(See, also, Ethnology and archæology.)
Trouessart (E. L.), revision of the genus Sciurus...H, Bull, vol VI, No 2, pp 301–307
Truckee group of Fortieth Parallel region....K, I, pp 412–424
Truckee Range, Nevada, Archean rocks of....K, I, pp 94–96
geology of....K, II, pp 803–811
Truckee River region, Nevada, geology of....K, II, pp 817–853
Tsim-sian Indians, use of numerals among....Eth, I, pp 155–156
(See, also, Ethnology and archæology.)
Tsim-sian language, vocabulary of....Eth, I, pp 143–153
(See, also, Ethnology and archæology.)
Tuckerman (E.), Lichenes of Great Basin....K, V, pp 412–413
list of Lichenes collected in the Southwest....W, VI, pp 350–351
Tucubits Mountains, Nevada, geology of....K, II, pp 523–527
Tufa, analysis of, from Nevada, Carson Desert....K, II, p 745
analysis of, from Nevada, Carson River....K, II, p 769
from Nevada, Pyramid Lake....K, II, p 823
Truckee Valley....K, II, p 819
from Utah, Ibenpah Mountains....K, II, p 473
Medway....K, II, p 319
of Colorado, Florissant....H, Ann 12, I, pp 276–278
of Utah, high plateaus....HP, pp 71–74
Tuff, analysis of, from Arizona, Peloncillo Mountains, vicinity of....W, III, p 643
Turquois, analysis of, from New Mexico, Los Cerillos, and from Persia....W, III, Supp, p 405; W, 1875, p 108
of New Mexico, Los Cerillos....W, III, Supp, pp 404–405
Tuscarora district, Nevada, notes on....W, 1871, p 35
Tushar Plateau, Utah, geology of....HP, pp 169–180
Tuttle (H. P.), astronomy and barometric hypsometry of the Black Hills....BH, pp 539–555
Twana Indians of the Skokomish Reservation, Washington, customs, language, etc., of....H, Bull, vol III, No 1, pp 57–114
(See, also, Ethnology and archæology.)
Twin Creek, Wyoming, geology near....H, Ann 11, pp 575–576
Two Ocean Pass, Wyoming, discussion of....H, Bull, vol V, No 2, pp 223–225
Tyboe district, Nevada, notes on....W, 1871, p 40
Ubehebe district, California, notes on....W, 1876, pp 64–65
Uinta group, character of....H, Mon III, p 12
exposures of....UM, p 61
of Colorado, northwestern....H, Ann 10, pp 37–39
of Fortieth Parallel region....K, I, pp 405–407
of Uinta Mountains....UM, pp 141–144
Uinta Lake (Tertiary), extent of....K, I, pp 449–450
Uinta Mountains, Archean rocks of....K, I, pp 42–44
east slope of, geology of....K, II, pp 277–282

Uinta Mountains, eastern portion of, geology of....UM
geology of....H, Ann 4, pp 41–54
glaciers, extinct, of....K, I, pp 470–473
Jurassic rocks of....K, I, pp 290–293
northern slopes of, geology of....K, II, pp 254–261
Paleozoic rocks of....K, I, pp 139–154
physical features of....K, II, pp 194–197
southern flanks of, geology of....K, II, pp 298–306
Triassic rocks of....K, I, pp 259–264
western portion of, geology of....K, II, pp 311–325
Uinta uplift, Utah, geology of....K, II, pp 198–206
Uinta structure, features of....UM, pp 11–14
Uinta Valley, Utah, Tertiary rocks....K, II, pp 307–310
Union Pacific Railroad, geology along route of, Leavenworth to Fort Hays H, Uncl I, pp 66–69
Utah, Abajo Mountains, geology of....H, Ann 10, pp 189–193; H, Bull, vol III, No 3, p 558
agriculture in northeastern....H, Ann 5, pp 237–248
Aquarius Plateau, geology of....HP, pp 284–298
Aqui Mountains, geology of....K, II, pp 456–460
Ashley Creek Basin, geology of....K, II, pp 291–298
astronomical observations in....W, 1874, pp 55–68
in Montana, Wyoming, Nebraska, Colorado, New Mexico, Nevada, and....W, II, pp 1–491
Awapa Plateau, geology of....HP, pp 272–276
batrachians of. (See Reptiles and batrachians.)
Bear Lake Plateau, geology of....H, Ann 11, pp 582–587
Bear Lake Valley, geology of....H, Ann 11, pp 587–589
Bear River, geology from Salt Lake Valley to....H, Ann 4, pp 147–161
Bear River Basin, topography of....H, Ann 11, pp 697–702
Bear River Range, geology of....H, Ann 11, pp 598–600
Bear River region, geology of....K, II, pp 326–339
Beaver, astronomical determinations at....W, II, pp 57–71
birds, annotated list of....W, Uncl 4, pp 39–54; W, Uncl 7
collected in California, Nevada, Arizona, New Mexico, Colorado, and....W, V, pp 131–507
in Nevada and....W, Uncl 4, pp 5–33
in Wyoming, Idaho, and, in 1872....H, Ann, 6, pp 670–715
Book Cliffs. (See Roan Cliffs.)
Box Elder region, geology of....K, II, pp 403–406
butterflies collected in Colorado and, in 1875, list of....H, Bull, vol II, No 3, pp 269–270
collected in northern Arizona and southern, in 1877....H, Bull, vol IV, No. 1, pp 253–258
Cache Valley, geology of....H, Ann 5, pp 19–21; H, Ann 11, pp 603–606
cave fauna in....H, Bull, vol III, No 1, pp 157–169
climate at Salt Lake City....H, Ann 5, p 236
coal in....H, Ann 4, pp 328–329
Coalville district, coal in....K, III, pp 467–472
Coleoptera collected in portions of California, Nevada, Arizona, New Mexico, Colorado, and....W, V, pp 809–827
Colorado River drainage basin, irrigable lands in....AL, pp 150–164
Desert Mountains, granite of....K, I, p 55
Desert region, geology of....K, II, pp 462–468

Utah, dialects of, comparative vocabulary of.....H, Bull, vol III, No 3, pp 533–545
East Fork Canyon, geology of HP, pp 243–248
elevations in..... H, Miscl I (3d ed), p 16; H, Miscl I (4th ed), pp 106–108; H, Bull, vol v, No 3, p 463
Ellen, Mount, geology of.....HM, pp 38–49
Ellsworth, Mount, geology of HM, pp 22–27
explorations in parts of Montana, Idaho, Wyoming, and, for the year 1872 H, Ann 6
Fish Lake Plateau, geology of HP, pp 260–267
fishes collected in portions of California, Nevada, Arizona, New Mexico, Colorado, and.....W, v, pp 635–703
geology of portions of Nevada, Arizona, New Mexico, and ...W, III, pp 227–301
Grand River district, geology of...H, Ann 9, pp 31–101; H, Ann 10, pp 163–185
topography of.....H, Ann 9, pp 337–350
Grass Valley, geology of.....HP, pp 248–251
Great Salt Lake, current, evaporation, etc., of.....W, 1879, pp 228–231
description of.....H, Ann 5, pp 233–235
geology of vicinity of K, II, pp 431–442
insects inhabiting H, Ann 6, pp 743–746
level of, fluctuation of.....AL, pp 58–77; K, I, p 497
region north of, geology of.....K, II, pp 420–430
region south of, geology of K, II, pp 443–446
Great Salt Lake drainage system, irrigable lands of.....AL, pp 113–127
Great Salt Lake Valley, agriculture in H, Ann 4, pp 237–241
geology from Bear River to.....H, Ann 4, pp 147–161
Green River district, geology of.....H, Ann 11, pp 509–646
Gunnison, astronomical determinations at.....W, II, pp 99–125
Hemiptera collected in portions of California, Nevada, Arizona, New Mexico, Colorado, and.....W, v, pp 829–841
Henry Mountains, geology of.....HM
Hilgard, Mount, geology of.....HP, pp 269–271
Hillers, Mount, geology of.....HM, pp 30–35
Holmes, Mount, geology of HM, pp 27–30
Hymenoptera collected in portions of Colorado, New Mexico, Arizona, Nevada, and W, v, pp 705–736
Ibenpah Mountains, geology of.....K, II, pp 472–476
invertebrate fossils of portions of Colorado, New Mexico, Arizona, Nevada, and.....W, IV, pp 1–219
iron in southwestern W, III, pp 261–263
kaolin near Gunnison.....W, III, p 263
lands of, discussion of.....AL, pp 93–112
leeches, fresh water, collected in portions of Colorado, New Mexico, Arizona, Nevada, and W, v, pp 955–967
locusts in..H, Ann 9, pp 602–604; H, Uncl 14, pp 102–105, 158, App, pp 253–259
Lodore Canyon, geology near.....K, II, pp 288–290
Malade Range and Valley, geology of.....H, Ann 11, pp 606–609
mammals collected in Idaho, Wyoming, and, in 1872.....H, Ann 6, pp 661–669
collected in portions of California, Nevada, Colorado, New Mexico, Arizona, and.....W, v, pp 35–129
Markagunt Plateau, geology of.....HP, pp 188–210
Marvine, Mount, geology of HP, p 269
meteorological observations in Idaho, Montana, and, in 1872 H, Miscl 2
mining districts of.....W, 1872, pp 14–26

Utah, Mollusca, terrestrial and fluviatile, collected in portions of Colorado, New Mexico, Arizona, and W, v, pp 923–954
mountain ranges in, features of W, III, pp 231–240
Ogden, astronomical determinations at W, II, pp 7–55
geology between Fort Hall and..H, Ann 5, pp 13–26; H, Ann 6, pp 197–207
meteorological observations at H, Miscl 2, pp 60–63
Ogden Canyon, Paleozoic rocks of K, I, pp 174–177
Ogden region, geology of K, II, pp 394–403
Ombe Range, granite of K, I, pp 56–57
Oquirrh Mountains, geology of K, II, pp 443–454
Orthoptera collected in portions of California, Nevada, Arizona, New Mexico, Colorado, and W, v, pp 843–908
Paria amphitheater, geology of HP, pp 253–256
Paunsagunt Plateau, geology of HP, pp 251–253
Pennell, Mount, geology of HM, pp 35–38
Plagopterinæ and ichthyology of Utah W, Uncl 8
plants collected in Arizona, Nevada, and W, Uncl 5, pp 5–19
collected in Idaho, Wyoming, Montana, and H, Ann 6, pp 747–792
in Nevada, Arizona, New Mexico, Colorado, and, catalogue of, with descriptions of new species W, VI, pp 53–297
of Nevada and, catalogue of K, V, pp 1–496
plateaus, high, geology of HP
Rabbit Valley, geology of HP, pp 276–279
Raft River Mountains, granite of K, I, pp 54–55
reptiles and batrachians collected in portions of Nevada, Arizona, New Mexico, Colorado, California, and W, v, pp 509–584
Roan or Book Cliffs, geology of H, Ann 10, pp 173–176
ruins, ancient, near San Juan River, in Arizona and H, Bull, vol II, No 1, pp 25–45
St. George, geology between Gila River, Arizona, and W, III, pp 189–225
salt in W, III, p 263
San Juan River, ruins, ancient, on H, Bull, vol II, No 1, pp 25–45
Sevier Plateau, geology of HP, pp 225–251
Sevier River Valley, agriculture in H, Ann 4, pp 244–247
geology of HP, pp 211–224
irrigable lands of AL, pp 128–149
Terrill, Mount, geology of HP, pp 267–268
Thousand Lake Mountain, geology of HP, pp 279–283
tribes, ancient, of, bead ornaments used by H, Bull, vol II, No 1, pp 67–69
Tushar Plateau, geology of HP, pp 169–180
Uinta Mountains, Archean rocks of K, I, pp 42–44
east slope of, geology of K, II, pp 277–282
eastern portion of, geology of UM
geology of H, Ann 4, pp 41–54
glaciers, extinct, of K, I, pp 470–473
Jurassic rocks of K, I, pp 290–293
northern slopes of, geology of K, II, pp 254–261
Paleozoic rocks of K, I, pp 139–154
physical features of K, II, pp 194–197
southern flanks of, geology of K, II, pp 298–306
Triassic rocks of K, I, pp 259–264
western portion of, geology of K, II, pp 311–325
Uinta uplift, geology of K, II, pp 198–206

Utah, Uinta Valley, Tertiary rocks of....K, II, pp 307–310
Wasatch Plateau, geology of....HP, pp 160–168
Wasatch Range, Archean rocks of....K, I, pp 44–54
features of....W, III, pp 233–237
geology of....H, Ann 6, pp 192–197; K, II, pp 340–391
glaciers, extinct, of....K, I, pp 473–474
Jurassic rocks of....K, I, p 293
Paleozoic rocks of....K, I, pp 154–181
trachytes of....K, I, pp 586–591
Triassic rocks of....K, I, pp 264–266
Wasatch region, northern, geology of....K, II, pp 393–419
water supply in....AL, pp 57–80
White River district, geology of....H, Ann 10, pp 61–131
Weber Canyon, geology of....K, II, pp 384–392
(See, also, Fortieth Parallel region; Basin Ranges; Great Basin.)
Utah Lake Valley, agriculture in....H, Ann 4, pp 241–244
Uhler (P. R.), list of Hemiptera of the region west of the Mississippi River, including those collected during the Hayden explorations of 1873....H, Bull, vol I, ser 2, No 5, pp 269–361
list of Hemiptera collected in eastern Colorado and northeastern New Mexico, by C. Thomas, during the expedition of 1869....H, Ann 4, pp 471–472
notices of the Hemiptera of the western Territories....H, Ann 5, pp 392–423
on the Hemiptera collected by Dr. Elliott Coues in Dakota and Montana during 1873–74....H, Bull, vol IV, No 2, pp 503–512
report upon Hemiptera collected in 1874 and 1875....W, 1877, pp 1322–1334
report upon the collections of Hemiptera made in portions of Nevada, Utah, California, Colorado, New Mexico, and Arizona, 1871–74.. W, v, pp 829–841
report upon the insects collected by P. R. Uhler during the explorations of 1875, including monographs of the familes Cynidæ and Saldæ and the Hemiptera collected by A. S. Packard, jr....H, Bull, vol III, No 2, pp 355–475, No 4, pp 765–796
Uintacrinus Grinnell, notes on....H, Bull, vol II, No 4, pp 375–378
(See, also, Invertebrates, fossil; Vertebrates, fossil.)
Ulke (H.), list of species of Coleoptera collected by Lieut. W. L. Carpenter....H, Ann 7, pp 566–571
report upon the collections of Coleoptera made in portions of Nevada, Utah, California, Colorado, New Mexico, and Arizona, 1871–1874....W, v, pp 809–827
Uncompahgre Plateau, Colorado, geology and topography of....H, Ann 9, pp 40–43, 49–50
Uncompahgre region, Colorado, physical features of....W, 1876, pp 95–97
Union mining district, Nevada, description of....W, 1877, pp 1269
Union Pacific Railroad, artesian borings along line of....H, Bull, vol III, No 1, pp 181–185
geologic reconnaissance along, report of....H, Ann 6, pp 519–541
Uniones of Tertiary of Wyoming and Utah, new species of....H, Bull, vol III, No 3, pp 603–606
(See, also, Invertebrates, fossil.)
Unionidæ of Mesozoic and Cenozoic of North America, comparison with living species....H, Bull, vol III, No 3, pp 615–624
(See, also, Invertebrates; Invertebrates, fossil.)

Unionidæ and Physidæ collected in Montana in 1876, descriptions of.....H, Bull, vol III, No 3, pp 599–602
(See, also, Invertebrates; Invertebrates, fossil.)
Unionville, Nevada, mining at.....K, III, pp 308–314
United States, springs, thermal, of.....H, Ann 12, II, pp 320–327
United States Geographical Survey west of one hundredth meridian, work of, sketch of.....W, I, pp 21–146
Uplifts in Colorado, northwestern.....H, Ann 10, pp 41–48
Upper Coal Measures of Great Basin.....K, I, pp 221–226, 241–246
Uraninite, analysis of, from Colorado, Leavenworth Gulch.....H, Ann 10, p 153
Ute Lake, extent of.....K, I, pp 445–446
Utensils and language of modern Utes.....H, Bull, vol II, No 1, pp 71–76
(See, also, Ethnology and archæology.)
Utes, language and utensils of.....H, Bull, vol II, No 1, pp 71–76
(See, also, Ethnology and archæology.)
Valleys, classification of.....ECR, pp 160–161
Vancouvers Island, fossils from.....H, Bull, vol II, No 4, pp 351–374
Vasey (G.), Gramineæ collected in Colorado, Nevada, Arizona, Utah, and New Mexico.....W, VI, pp 281–297, 377–378
plants determined by.....W, Uncl 5, pp 54–57
Vegetation of Rocky Mountain region.....H, Bull, vol VI, No 1, pp 1–77
Veins, metalliferous, of California.....W, 1876, p 184
Veins and lodes, formations, search for, etc.....H, Ann 7, pp 278–280
Verde River, Arizona, geology between Little Colorado River and..W, III, pp 209–215
Vermejo Creek region, New Mexico, geology of.....W, III, Supp, pp 248–262
Vermejo Park, New Mexico, geology of, notes on..H, Bull, vol II, No 4, pp 296–305
Vermilion Cliff group, exposures of.....UM, p 54
of Fortieth Parallel region.....K, I, pp 360–377
Vermilion Creek, Colorado, geology of basin of.....K, I, pp 225–227, 275–277
rocks exposed on.....K, I, pp 142–144
Verrill (A. E.), list of leeches collected by Hayden's expedition, 1873..H, Ann 7, p 623
report upon the collections of fresh-water leeches made in portions of Nevada, Utah, Colorado, New Mexico, and Arizona, 1872–74..W, V, pp 955–967
Vertebrate paleontology of Colorado.....H, Ann 7, pp 427–533
Vertebrates; Ardeidæ, synopsis of American genera of Ciconiidæ and.....H, Bull, vol IV, No 1, pp 219–251
Bassaris, species of, descriptions of.....H, Bull, vol V, No 3, pp 331–340
batrachians and reptiles collected in California, Arizona, and Nevada..W, 1878, pp 206–226
collected in portions of Nevada, Utah, California, Colorado, New Mexico, and Arizona.....W, V, pp 509–584
of Arizona, synopsis of.....W, V, pp 585–633
birds, bibliography of American.....H, Bull, vol V, No 2, pp 239–330; H, Bull, vol V, No 3, pp 521–1066
of Arizona, annotated list of.....W, 1875, pp 153–166
eastern, and New Mexico, western.....W, Uncl 4, pp 95–148
portions of New Mexico and.....W, 1875, pp 149–153
of Arizona and adjacent States.....W, V, pp 131–507
of California, portion of.....W, 1876, pp 224–278
portions of Nevada and, preliminary report on.....W, 1878, pp 185–186
of California and adjacent States.....W, V, pp 131–507
of California, Oregon, and Nevada.....W, 1879, pp 282–335

Vertebrates; birds of Colorado, Denver, vicinity of....W, Uncl 4, pp 55–69
birds of Colorado, Fort Garland, vicinity of....W, Uncl 4, pp 69–95
of Colorado and adjacent States....W, v, pp 131–507
of Colorado Valley, a repository of scientific and popular information concerning North American ornithology....H, Miscl 11
of Dakota, Fort Sisseton, notes on....H, Bull, vol v, No 1, pp 71–103
of Dakota and Montana, along forty-ninth parallel, field notes on..H, Bull, vol IV, No 3, pp 545–661
of Great Basin....K, IV, pp 303–643
of Guadeloupe Island....H, Bull, vol II, No 2, pp 183–195
of Idaho, Wyoming, and Utah....H, Ann 6, pp 670–715
of Michigan, annotated list of....H, Bull, vol v, No 3, pp 481–497
of Montana and Dakota, along forty-ninth parallel, field notes on...H, Bull, vol IV, No 3, pp 545–661
of Nebraska, food of, notes on....H, Uncl 14, App, pp 13–62
of Nevada, annotated list of....H, Bull, vol VI, No 2, pp 203–256
bibliography of....H, Bull, vol VI, No 2, pp 252–256
Carson City, vicinity of....W, 1877, pp 1307–1322
portions of California and, preliminary report on...W, 1878, pp 185–186
of Nevada and adjacent States....W, v, pp 131–507
of Nevada and Utah....W, Uncl 4, pp 5–33
of New Mexico, portions of Arizona and....W, 1875, pp 149–153
western, and Arizona, eastern....W, Uncl 4, pp 95–148
of New Mexico and adjacent States....W, v, pp 131–507
of Northwest....H, Miscl 3
of Texas, Red River region....H, Bull, vol III, No 3, pp 655–695
Rio Grande, lower....H, Bull, vol IV, No 1, pp 1–66; H, Bull, vol v, No 3, pp 371–440
of United States, western, geographical distribution and variation in..W, v, pp 23–34
of Utah, annotated list of....W, Uncl 4, pp 39–54; W, Uncl 7
of Utah and adjacent States....W, v, pp 131–507
of Utah and Nevada....W, Uncl 4, pp 5–33
of Utah, Wyoming, and Idaho....H, Ann 6, pp 670–715
of Wyoming, list of....H, Ann 4, pp 462–466
of Wyoming, Idaho, and Utah....H, Ann 6, pp 670–715
(See, also, Ornithology.)
bison, American, history, habits, range, extermination, etc., of....H, Ann 9, pp 443–508
Cathartidæ, osteology of....H, Ann 12, I, pp 727–806
Cete, bibliography of Sirenia and....H, Bull, vol VI, No 3, pp 399–562
Ciconiidæ, synopsis of American genera of Ardeidæ and....H, Bull, vol IV, No 1, pp 219–251
Coatis, character, distribution, etc., of....H, Bull, vol v, No 2, pp 153–174
deer, Virginian, consolidation of hoofs of....H, Bull, vol IV, No 1, pp 293–294
Eremophila alpestris, osteology of....H, Ann 12, I, pp 627–652; H, Bull, vol VI, No 1, pp 119–147
Falconidæ, natural arrangement of, outlines of....H, Bull, vol I, ser 2, No 4, pp 225–231
studies of American....H, Bull, vol II, No 2, pp 91–182
finches, gray-crowned purple, monograph of..H, Bull, vol I, ser 2, No 2, pp 51–82
fishes of California and Nevada, report on....W, 1878, pp 187–205
of Montana and Dakota, report on....H, Bull, vol IV, No 4, pp 777–799

Vertebrates; fishes of Nevada, Utah, California, Colorado, New Mexico, and Arizona, portions of.....W, v, pp 635–703
fishes of North America, catalogue of fresh-water.....H, Bull, vol iv, No 2, pp 407–442
of Texas, Rio Grande at Brownsville, notes on.....H, Bull, vol iv, No 2, pp 397–406; H, Bull, vol iv, No 3, pp 663–667
fishes and reptiles collected in Idaho, Wyoming, Montana, and Utah, H, Ann 5, pp 467–476
of Wyoming and contiguous territories, report on H, Ann 4, pp 432–442
fur-bearing animals, monograph on.....H, Miscl 8
Geomyidæ, cranial and dental characters of..H, Bull, vol i, ser 2, No 2, pp 83–90
Geomys, study of Thomomys and ECR, pp 217–279
Geomys tuza, notes on.....ECR, pp 282–285
Herodiones, studies of the American.....H, Bull, vol iv, No 1, pp 219–251
Herpetology of Dakota and Montana H, Bull, vol iv, No 1, pp 259–291
Lagopus leucurus, breeding habits, nests, and eggs of H, Bull, vol i, ser 2, No 5, pp 263–266
Lanius lodovicianus excubitorides, osteology of.....H, Bull, vol vi, No 2, pp 351–359
Leucosticte, monograph on.....H, Bull, vol i, ser 2, No 2, pp 51–82
Leucosticte tephrocotis, sexual, individual, and geographical variation in H, Bull, vol ii, No 4, pp 345–350
mammals collected in California in 1875 W, 1876, pp 305–312
collected in portions of Nevada, Utah, California, Colorado, New Mexico, and Arizona, 1871-1874, report on.....W, v, pp 35–129
collected in Wyoming, list of H, Ann 4, pp 461–462
geographic distribution of.....H, Bull, vol iv, No 2, pp 313–377
geographical variation among North American, especially in respect to size H, Bull, vol ii, No 4, pp 308–344
of Fort Sisseton, Dakota.....H, Bull, vol iv, No 1, pp 201–218
of western United States, geographical distribution and variation in W, v, pp 23–34
mammals, American insectivorous.....H, Bull, vol iii, No 3, pp 631–653
synopsis of..... H, Bull, vol i, ser 2, No 2, pp 91–120
mammals and birds collected in Utah, Idaho, and Wyoming in 1872..H, Ann 6, pp 661–715
Mephitinæ, cranial and dental characters of H, Bull, vol i, ser 2, No 1, pp 7-15
Mustelidæ, monograph of H, Miscl 8
Nasua, character, distribution, etc., of.....H, Bull, vol v, No 2, pp 153–174
Passer domesticus, status of, in America, with special reference to the western States and Territories.....H, Bull, vol v, No 2, pp 175–193
pigs, solid-hoofed, apparently established in Texas, discussion of..H, Bull, vol iv, No 1, pp 295–297
Pinnipeds, history of North American H, Miscl 12
Plagopterinæ and ichthyology of Utah W, Uncl 8
Polybori, monograph of.....H, Bull, vol i, ser 2, No 6, pp 451–473
ptarmigan, white-tailed, breeding habits, nests, and eggs of.....H, Bull, vol i, ser 2, No 5, pp 263–266
Pythonomorpha, discussion of Owen's paper on.....H, Bull, vol iv, No 1, pp 299–311
reptiles and batrachians of Arizona, synopsis of W, v, pp 585–633
of California, Arizona, and Nevada W, 1878, pp 206–226

Vertebrates; reptiles and batrachians of Nevada, Utah, California, Colorado, New Mexico, and Arizona, portions of.....W, v, pp 509–584
reptiles and fishes collected in Idaho, Wyoming, Montana, and Utah.H, Ann 5, pp 467–476
of Wyoming and contiguous Territories.....H, Ann 4, pp 432–442
Rodentia, monograph of North American H, Mon xi
Sciurus, revision of genus H, Bull, vol vi, No 2, pp 301–307
Sciuri, synonymatic list of American H, Bull, vol iv, No 4, pp 877–887
sea bears, seals, walruses, and sea lions, monograph on.....H, Miscl 12
Sirenia, bibliography of Cete and.....H, Bull, vol vi, No 3, pp 399–562
Sparrow, English, status of, in America, with special reference to western States and Territories.....H, Bull, vol v, No 2, pp 175–193
Speotyto cunicularia hypogæa, osteology of.....H, Ann 12, i, pp 593–626; H, Bull, vol vi, No 1, pp 87–117
squirrels, arboreal, synonymatic list of American.....H, Bull, vol iv, No 4, pp 877–887
Tetraonidæ, North American, osteology of.....H, Ann 12, i, pp 653–726; H, Bull, vol vi, No 2, pp 309–350
Thomomys, study of Geomys and ECR, pp 217–279
Zapus hudsonius, account, critical, descriptive, and historical, of.....H, Bull, vol i, ser 2, No 5, pp 254–262
Vertebrates, fossil; Batrachia and Reptilia of Permian beds of Texas, some new.....H, Bull, vol vi, No 1, pp 79–82
bird from insect-bearing shales of Colorado, description of.....H, Bull, vol iv, No 2, pp 443–445
bird, wading, from Amyzon shales H, Bull, vol vi, No 1, pp 83–85
Canidæ of the Loup Fork epoch.....H, Bull, vol vi, No 2, pp 387–390
Canidæ and Nimravidæ of Miocene period H, Bull, vol vi, No 1, pp 165–181
Dinosaurian, carnivorous, from Dakota beds of Colorado H, Bull, vol iii, No 4, pp 805–806
Erisichte, discussion of genus H, Bull, vol iii, No 4, pp 821–823
fishes of Carboniferous of Kansas, notice of some H, Mon i, pp 311–314
of Coal Measures, Upper, of Nebraska.....H, Uncl 1, pp 239–245
of Cretaceous and Tertiary deposits west of Mississippi River H, Bull, vol iv, No 1, pp 67–77
of Green River shale of Wyoming.....H, Mon i, pp 194–197
of Tertiaries of the Rocky Mountains, supplementary notice of H, Bull, vol i, ser 1, No 2, pp 49–51
of Tertiary shales of South Park..... H, Bull, vol i, ser 2, No 1, pp 3–5
of Green River, Wyoming H, Ann 4, pp 425–431
fishes and reptiles of Cretaceous formations of Interior region.....H, Mon i, pp 266–310
of Cretaceous of Kansas H, Ann 4, pp 385–425
ichthyological fauna of the Green River shales, contributions to knowledge of.....H, Bull, vol iii, No 4, pp 806–819
Nimravidæ and Canidæ of the Miocene period..H, Bull, vol vi, No 1, pp 165–181
Odontornithes, monograph on K, viii
of Amyzon beds H, Mon, iii, pp 742–757
of Bridger formation of Wyoming H, Mon, i, pp 15–194
of Bridger, Puerco, and Wasatch groups H, Mon iii, pp 49–742
of Colorado.....H, Ann 7, pp 427–533
of Cretaceous of Kansas H, Ann 5, pp 327–349
of Missouri River region.....H, Bull, vol iii, No 3, pp 577–597
of North America, synopsis of.....H, Mon ii, pp 245–302
of West H, Mon ii; H, Bull, vol i, ser 1, No 2, pp 5–48

Vertebrates, fossil of Dakota and upper Tertiary formations H, Bull, vol IV, No 2, pp 379–396
of Eocene of Colorado H, Ann 7, pp 456–461
of New Mexico W, IV, pt ii, pp 37–282
systematic catalogue of W, Uncl 9
of Wyoming H, Ann 6, pp 543–649
of Wind River H, Bull, vol VI, No 1, pp 183–202
of Eocene and Pliocene formations of New Mexico W, 1874, pp 115–130
of Eocene plateau of New Mexico, list of W, 1875, pp 93–96
of Europe and North America, relations of horizons of H, Bull, vol V, No 1, pp 33–54
of John Day and White River groups H, Mon III, pp 759–1002
of Loup Fork beds of Colorado H, Ann 7, pp 518–532
of New Mexico W, IV, pt II, pp 283–365
of Mesozoic of New Mexico W, IV, pt ii, pp 26–36b
of Miocene of Colorado H, Ann 7, pp 461–518
of Oregon, observations on H, Bull, vol V, No 1, pp 55–69
of New Mexico, collected in 1874 W, IV, pt II
of Pliocene of Colorado, northern H, Bull, vol I, ser 1, No 1, pp 9–28
of Pliocene and Eocene of New Mexico W, 1874, pp 115–130
of Puerco, Wasatch, and Bridger groups H, Mon III, pp 49–742
of Santa Fe marls W, 1875, pp 68–76
of Tertiary of Oregon, John Day River H, Mon I, pp 210–226
of western States and Territories H, Ann 4, pp 340–370; H, Mon I, pp 227–265, H, Mon III
of Wyoming H, Ann 5, pp 353–372
Sweetwater River H, Mon I, pp 197–209
of Tertiary, upper, and Dakota formations H, Bull, vol IV, No 2, pp 379–396
of Vermilion Creek group, list of K, I, pp 376–377
of Wasatch strata H, Ann 5, pp 350–353
of Wasatch, Puerco, and Bridger groups H, Mon III, pp 49–742
of western Territories H, Mon I
of White River and John Day groups H, Mon III, pp 759–1002
reptiles and fishes of the Cretaceous rocks of Kansas H, Ann 4, pp 385–425
of Cretaceous formations of Interior region H, Mon I, pp 266–310
Reptilia and Batrachia of Permian beds of Texas, some new H, Bull, vol VI, No 1, pp 79–82
Rhinoceridæ of North America, extinct species of, and their allies H, Bull, vol V, No 2, pp 227–237
Rodentia of Miocene of North America, review of H, Bull, vol VI, No 2, pp 361–386
Virginia City, Nevada, astronomical determinations at W, II, pp 183–210
Virginia City, Idaho, geology near H, Ann 5, pp 171–172
Virginia Range, Nevada, geology of K, II, pp 824–826; K, III, pp 11–36
Vocabulary of forty Indian languages W, VII, pp 424–485
(See, also, Ethnology and archæology.)
Volcanic action, causes of HP, pp 113–142
Volcanic region in Arizona and New Mexico, geology of W, III, pp 525–541
Volcanic rocks, classification of HP, pp 82–112
correlation and succession of K, I, pp 678–696
fusion, genesis, and classification of K, I, pp 696–725
of Basin Ranges W, III, pp 118–155, 253–257
of Black Hills BH, pp 189–203
of Colorado, Huerfano Park and Spanish Peaks H, Ann 9, pp 127–136
North Park K, II, pp 112–127

Volcanic rocks of Colorado, San Juan region H, Ann 8, pp 193–209
of Colorado Plateau W, III, pp 297–299
of Fortieth Parallel region K, I, pp 545–725
of Green River Basin K, II, pp 236–238
of Nevada, Piñon Range K, II, pp 558–562
of Utah, high plateaus HP, pp 55–142
quantitative chemical relations of K, I, pp 678–681
Vulture mine, Arizona, notes on W, 1871, p 56
Wachoe Mountains, Nevada, geology of K II, pp 476–483
granite of K, I, pp 59–60
Wahweah Range, Nevada, geology of K, II, pp 566–569
granite of K, I, p 74
Wakynakaine language, vocabulary of Eth, I, pp 248–265
(See, also, Ethnology and archæology.)
Walla Walla, Wash., astronomical work at W, 1879, pp 10–17
Walnut Grove district, Arizona, notes on W, 1871, pp 55–56
Walruses, sea-lions, sea-bears, and seals of North America, monograph of .. H, Miscl 12
(See, also, Vertebrates.)
Warm Springs Creek, Wyoming, geology near H, Ann 12, I, pp 235–237
Wasatch group, extent and character of H, Mon III, pp 7–11
fossils of, from White River Valley, Colorado H, Ann 11, pp 226–229
fossils, invertebrate, of, list of H, Bull, vol III, No 3, p 611
fossils, vertebrate, of H, Ann 5, pp 350–353
of Bridger group and H, Mon III, pp 49–742
from New Mexico W, IV, pt ii, pp 269–282
occurrences and age of H, Ann 8, p 147
of Colorado, Grand River district H, Ann 10, p 184
northwestern H, Ann 10, p 35
White River district H, Ann 10, pp 79–82, 110
of Utah, White River district H, Ann 10, pp 79–82, 110
of Wyoming, Green River region H, Ann 11, pp 635–636
Salt Wells, vicinity of H, Ann 11, pp 127–133
Wind River Range, vicinity of H, Ann 11, p 88
Wasatch limestone of Great Basin K, I, pp 195–212, 235–240
Wasatch Plateau, Utah, geology of HP, pp 160–168
Wasatch Range, Utah, Archean rocks of K, I, pp 44–54
features of W, III, pp 233–237
geology of K, II, pp 340–391; H, Ann 6, pp 192–197
glaciers, extinct, of K, I, pp 473–474
Jurassic rocks of K, I, p 293
Paleozoic rocks of K, I, pp 154–181
trachytes of K, I, pp 586–591
Triassic rocks of K, I, pp 264–266
Wasatch region, northern, Utah, geology of K, II, pp 393–419
Washakie, Wyoming, Vermilion Creek group near K, I, pp 362–365
Washakie Basin, Wyoming, geology of K, II, pp 207–222
Washakie group, occurrences and age of H, Ann 8, p 146
Washakie Lake (Tertiary), extent of K, I, pp 447–449
Washburn Range, Wyoming, geology of H, Ann 12, II, pp 32–35
topographic features of H, Ann 12, II, p 478
Washington, astronomical work in California, Oregon, and W, 1879, pp 265–268
elevations in H, Miscl 1 (3d ed), p 19; H, Miscl 1 (4th ed), p 108
tribes of northwestern Oregon and western Eth, I, pp 157–241

Washington, Twana Indians of Skokomish Reservation, customs, language, etc., of H, Bull, vol III, No 1, pp 57–114
Walla Walla, astronomical work at W, 1879, pp 10–17
Washington district, California, notes on W, 1878, p 84
Washoe district, Nevada, geology of K, III, pp 11–36
notes on W, 1876, pp 54–55
Water, analysis of, from Arizona, Mineral Park W, 1876, p 197
analysis of, from Arizona, northwestern, gypsum spring W, 1876, p 197
from Arizona, San Francisco River (mineral) W, III, p 616
from Atlantic Ocean K, II, p 436
from Bavaria, Isar River W, III, p 576
from California, Black Lake W, 1876, p 191
Cabezon Valley (hot spring) W, 1876, p 193
Coahuila Valley W, 1876, p 196
Coso Range (thermal spring) W, 1876, p 194
Inyo County (thermal spring) W, 1876, p 194
Little Yosemite (soda spring) W, 1876, p 195
Mohave River, saline flats of W, 1876, p 197
Owens Lake W, 1876, p 190
San Bernardino W, 1876, p 193
San Diego (thermal springs) W, 1876, p 193
San Fernando Mountain (sulphur spring) W, 1876, p 195
San Fernando Valley (mineral spring) W, 1876, p 195
Santa Barbara (thermal springs) W, 1876, p 192
from Colorado, Canyon (mineral) W, III, p 617
Carlisle Springs (mineral) W, III, p 622
Idaho Springs (mineral) W, III, p 485
Manitou (mineral) W, III, p 619
Bathing Spring (mineral) H, Ann 6, p 102
Pagosa Springs (mineral) H, Ann 9, p 185; W, III, p 627
Parnassus Springs (mineral) W, III, p 620
Wagon Wheel Gap (mineral) H, Ann 9, p 155; W, III, p 623
from Idaho, Soda Springs (mineral) H, Ann 11, p 592
from Mediterranean Sea K, II, p 436
from Nevada, Comstock vein W, 1878, p 156
Humboldt Lake K, I, p 528; K, II, p 743
Pyramid Lake K, I, p 528
Soda Lakes K, I, p 528; K, II, p 747
Stones Ferry, salt well near W, 1876, p 192
Virgin River W, 1876, p 191
Virginia Range K, II, p 824
Washoe district, Savage mine K, III, p 87
from New Mexico, Abiquiu (mineral) W, III, p 625
Las Vegas (mineral) W, III, p 624; W, III, Supp, pp 405–406
Ojos Calientes (mineral) W, III, p 614
Pajarito River (mineral) W, III, p 626
Rio Grande del Norte W, III, p 576
San Isidro (mineral) W, III, p 616
from Palestine, Dead Sea K, II, p 436
from Persia, Oroomiah Sea K, II, p 436
from Utah, Great Salt Lake K, I, p 502; K, II, pp 433–436
Salt Lake City (mineral) K, II, p 438

Water, analysis of, from Utah, Sevier Lake.....K, II, p 436
analysis of, from various localities (mineral).....H, Ann 12, II, pp 387–398
deposit from, analysis of, from Colorado, Idaho Springs.....W, III, p 485
analysis of, from Colorado, Manitou.....H, Ann 5, p 159
from Idaho, Soda Springs.....H, Ann 11, p 590
Water supply of Black Hills.....BH, pp 311–313
of Great Basin.....W, III, pp 105–117
of Kansas, western, and Colorado, eastern.....H, Ann 4, pp 448–452
of Utah.....AL, pp 57–80
Watson (S.), botany of Fortieth Parallel region.....K, V
catalogue of plants collected in Utah, Nevada, and Arizona..W, Uncl 5, pp 5–19
descriptions of plants collected in the Southwest.....W, VI, pp 358–359
Waverly group, invertebrate fossils of, of Fortieth Parallel region..K, IV, pp 251–264
Weapons, stone, methods of making.....H, Bull, vol III, No 3, pp 547–549
(See, also, Implements; Ethnology and archæology.)
Weaver district, Arizona, notes on.....W, 1871, p 55
Weber Canyon, Utah, geology of.....K, II, pp 384–392
Paleozoic rocks in.....K, I, pp 156–165
Weber quartzite of Colorado, northwestern.....H, Ann 10, p 23
of Great Basin.....K, I, pp 213–221, 240–241
Weevil, cranberry, description of.....H, Ann 10, pp 525–526
Wells, artesian. (See Artesian wells.)
West Humboldt Range, Nevada, Archean rocks of.....K, I, pp 85–87
geology of.....K, II, pp 713–731
mining in.....K, III, pp 308–316
Triassic rocks of.....K, I, pp 267–278
West Indies, springs, thermal, in.....H, Ann 12, II, p 328
West Plum Creek, Colorado, geology near.....H, Ann 3, p 40; H, Ann 1–3, p 140
West Walker River district, California, notes on.....W, 1878, p 86
Wheeler (G. M.), reconnaissance through southern and southeastern Nevada..W, 1869
surveys in charge of, reports on. See pp. 44–65.
Wheeler Survey, work of, sketch of.....W, I, pp 21–146
Wheelerite, analysis of, from New Mexico.....H, Ann 10, p 153
Whipple (C. W.), report of.....W, 1875, pp 44–46; W, 1876, pp 147–150
White (C. A.), catalogue of the invertebrate fossils hitherto published from the fresh and brackish water deposits of the western portion of North America.....H, Bull, vol III, No 3, pp 607–614
certain Carboniferous fossils from the Western States and Territories..H, Ann 12, I, pp 119–141
certain Tertiary Mollusca from Colorado, Utah, and Wyoming.....H, Ann 12, I, pp 41–48
comparison of the North American Mesozoic and Cenozoic Unionidæ and associated mollusks with living species.....H, Bull, vol III, No 3, pp 615–624
conditions of preservation of invertebrate fossils.....H, Bull, vol V, No 1, pp 133–141
Cretaceous fossils of Western States and Territories.....H, Ann 11, pp 273–319; H, Ann 12, I, pp 3–39
descriptions of new species of invertebrate fossils from the Laramie group H, Bull, vol IV, No 3, pp 707–719
descriptions of new species of Uniones and a new genus of fresh-water Gasteropoda from the Tertiary strata of Wyoming and Utah H, Bull, vol III, No 3, pp 603–606

White (C. A.), descriptions of Unionidæ and Physidæ collected by Prof. E. D. Cope from the Judith River group of Montana Territory during the summer of 1876 H, Bull, vol III, No 3, pp 599–602
fossils of the Juratrias of southeastern Idaho.... H, Bull, vol V, No 1, pp 105–117
fossils from the Carboniferous rocks of the Interior States H, Ann 12, I, pp 155–171
fossils of the Laramie group H, Ann 12, I, pp 49–103
invertebrate paleontology of the Plateau province UM, pp 74–135
Jurassic fossils from the western Territories H, Ann 12, I, pp 143–153
on the distribution of molluscan species in the Laramie group H, Bull, vol IV, No 3, pp 721–724
preliminary report on invertebrate fossils W, Uncl 6
remarks on the paleontological characteristics of the Cenozoic and Mesozoic groups as developed in the Green River region H, Bull, vol III, No 3, pp 625–629
remarks upon certain Carboniferous fossils from Colorado, Arizona, Idaho, Utah, and Wyoming, and certain Cretaceous corals from Colorado, together with descriptions of new forms H, Bull, vol V, No 2, pp 209–221
remarks upon the Laramie group H, Bull, vol IV, No 4, pp 865–876
report on the Carboniferous invertebrate fossils of New Mexico W, III, Supp, pp iii–xxxvi
report on the geology of a portion of northwestern Colorado.. H, Ann 10, pp 3–60
report on the paleontological field work for the season of 1877 H, Ann II, pp 159–265
report upon the invertebrate fossils collected in portions of Nevada, Utah, Colorado, New Mexico, aud Arizona in 1871–74..... W, IV, pp 1–219
Triassic fossils of southeastern Idaho H, Ann 12, I, pp 105–118
White (C. A.) and Nicholson (H. A.), bibliography of North American invertebrate paleontology H, Miscl 10
supplement to the bibliography of North American invertebrate paleontology H, Bull, vol V, No 1, pp 143–152
White Cliff group, exposures of UM, pp 51–52
White Pine district, Nevada, geology of, and mining and milling in K, III, pp 409–444; W, 1871, p 39
White Pine Mountains, Nevada, geology of K, II, pp 542–547
White River district, Colorado-Utah, geology of H, Ann 10, pp 61–131
topography of H, Ann 10, pp 349–357
White River group, invertebrate fossils of H, Mon IX, pp 598–605
invertebrate fossils of, list of H, Bull, vol III, No 3, p 612
occurrences and character of H, Ann 8, p 150; H, Mon III, pp 13–16
of Fortieth Parallel region K, I, pp 408–412
of Missouri region, upper H, Mon IX, pp lxi–lxiv
of Wyoming, eastern K, II, pp 65–67
vertebrates of John Day group and H, Mon III, pp 759–1002
Whitfield (R. P.), paleontology of the Black Hills BH, pp 325–468
preliminary report on the paleontology of the Black Hills PBH
Whitfield (R. P.) and Hall (J.), paleontology of Fortieth Parallel region K, IV, pp 199–302
Williams (S. G.), notes on the geology of some localities near Canyon City, Fremont County, Colorado.... H, Bull, vol I, ser 2, No 5, pp 249–251
Williams River Mountains, Colorado, geology of H, Ann 7, pp 189–192

Willow Creek Basin, Idaho, geology in.....H, Ann 11, pp 349–351
Willow Creek ridges, Idaho, geology of.....H, Ann 11, pp 351–360
Wilson (A. D.), means of communication between Denver and San Juan mines H, Ann 8 pp 443–449; H, Bull, vol I, ser 2, No 3, pp 145–149
notes on the geographical work of the United States Geological and Geographical Survey of the Territories.....H, Bull, vol III, No 3, pp 705–737
topographical report on southeastern district.....H, Ann 9, pp 299–333
reports on primary triangulation...H, Ann 10, pp 275–310; H, Ann 11, pp 649–672
Winatsha language, vocabulary of.....Eth, I, pp 249–265
(See, also, Ethnology and archæology.)
Wind movements in western States H, Uncl 14, pp 187–210
Wind River, Wyoming, Eocene beds of, vertebrata of.....H, Bull, vol VI, No 1, pp 183–202
Wind River Basin, Wyoming, geology of.....H, Ann 12, I, pp 255–269
Wind River district, Wyoming, geology of.....H, Ann 12, I, pp 175–269
Wind River group, invertebrate fossils of H, Mon IX, pp 593–597
occurrences and age of.....H, Ann 8, pp 148–149
of Missouri region, Upper H, Mon IX, p lxi
Wind River Range, Wyoming, geology of H, Ann 12, I, pp 228–254
Wind River Mountains, Wyoming, strata exposed in H, Ann 6, pp 19–21
Winnemucca, Nevada, astronomical determinations at.....W, II, pp 157–182
Winnemucca Lake region, Nevada, geology of.....K, II, pp 801–816
Wood, articles and utensils of, from graves of southern California..W, VII, pp 122–124
implements and weapons made of bone and W, VII, pp 222–233
(See, also, Ethnology and archæology.)
Woods (H. C.), algæ of Great Basin K, V, p 415
Worms collected near Yellowstone River in 1871.....H, Ann 5, pp 381–382
(See, also, Invertebrates.)
Worms, parasitic, found in the brain and other parts of birds..H, Ann 6, pp 735–737
(See, also, Inverterbrates.)
Wyoming, agriculture of Colorado and H, Ann 4, pp 191–264
art, primitive, in the Bridger Basin H, Ann 6, pp 651–653
artesian borings in, along line of Union Pacific Railroad.....H, Bull, vol III, No 1, pp 181–185
astronomical observations in W, 1874, pp 74–101
in Nebraska, Colorado, New Mexico, Nevada, Utah, Montana, and ..W, II, pp 1–491
Bear River, geology near head of.....H, Ann 4, pp 44–54
Beaver Creek, geology of H, Ann 11, p 553
birds collected in, list of.....H, Ann 4, pp 462–466
collected in Utah, Idaho, and H, Ann 6, pp 670–715
Bitter Creek, Cretaceous uplift of.....K, II, pp 227–238
Bridger Basin, geology of.....K, II, pp 238–241
Bridger Pass region, geology of.....K, II, pp 156–160
Buffalo Fork, geology of.....H, Ann 11, pp 461–467
Buffalo Fork Mountains, geology of.....H, Ann 11, pp 468–470
Carbon Basin, geology of.....K, II, pp 143–148
Cheyenne, astronomical observations at.....W, Uncl 3, pp 2–45
geology between Denver and..H, Ann 3, pp 11–37; H, Ann 1–3, pp 111–137
between Fort Fetterman and.....H, Ann 4, pp 11–24
between Omaha, Nebraska, and.....H, Ann 4, pp 98–112
Chugwater River, geology near H, Ann 4, pp 12–18

Wyoming, Cinnabar Mountain, geology of....H, Ann 5, pp 60–63
coal in....H, Ann 4, pp 326–328
Crow Creek, geology near....H, Ann 11, p 554
East Gallatin Mountains, geology of....H, Ann 12, II, pp 15–19
elevations in....H, Bull, vol v, No 3, p 464; H, Miscl 1 (3d ed), pp 14–15; H, Miscl 1 (4th ed), pp 109–111
Elk Mountain region, geology of....LOR, 1868, pp 244, 245; H, Ann 2, pp 91–92; K, II, pp 148–152
Eocene beds of Wind River, vertebrata of....H, Bull, vol VI, No 1, pp 183–202
Evarts, Mount, geology of....H, Ann 12, II, pp 9–15
explorations in Idaho and....H, Ann 11
in parts of Montana, Idaho, Utah, and, for the year 1872....H, Ann 6
Feather Creek, geology near....H, Ann 11, pp 530–531
Firehole River, geyser basins of....H, Ann 6, pp 141–158
Fontenelle hogbacks, geology of....H, Ann 11, pp 537–538
Fort Bridger, geology between South Pass and....H, Ann 4, pp 35–41
Fort Fetterman, geology between Cheyenne and....H, Ann 4, pp 11–24
geology between South Pass and....H, Ann 4, pp 24–35
Front Range, Archean rocks of....K, I, pp 17–28
geology of....H, Ann 4, pp 112–119; K, II, pp 2–72
Jurassic rocks of....K, I, pp 285–289
Triassic rocks of....K, I, pp 249–258
Gardiner River, hot springs near....H, Ann 5, pp 64–75
Gardiner River, upper, geology of....H, Ann 12, II, pp 27–32
geological explorations in....LOR, 1868, pp 229–255; H, Ann 2, pp 76–102
gold in Sweetwater district....H, Ann 11, pp 142–148
Green River, astronomical determinations at....W, II, pp 129–154
fishes of Tertiary shales of....H, Ann 4, pp 425–431
Green River Basin, geology of....H, Ann 11, pp 523–542; H, Ann 12, I, pp 202–207
physical features of....K, II, pp 191–194
topographic features of....H, Ann 11, pp 689–693
Green River coal basin, geology of....K, III, pp 451–473
Green River district, agriculture in....H, Ann 4, pp 233–237
geology of....H, Ann 11, pp 509–646
Gros Ventre Basin, geology of....H, Ann 12, I, pp 219–227
Gros Ventre Range, geology of....H, Ann 11, pp 448–456; H, Ann 12, I, pp 208–218
Hams Fork, geology near....H, Ann 11, pp 532, 534–535
Henrys Fork, geology near....H, Ann 4, pp 56–63
Henrys Fork Basin, geology of....K, II, pp 261–269
Hoback Canyon Ridge, geology of....H, Ann 12, I, pp 178–187
Horse Creek, geology near....H, Ann 11, pp 527–528
Indian Creek, laccolite on....H, Ann 12, II, pp 24–25
insects from Tertiary rocks of Colorado and, account of some....H, Bull, vol IV, No 2, pp 519–542
Jackson Hole, geology of....H, Ann 11, pp 443–448
Jackson Lake, geology near....H, Ann 6, pp 261–264
John Day Ridge and Basin, geology of....H, Ann 12, I, pp 187–199
Junction Valley, geology of....H, Ann 12, II, pp 42–47
Juratrias section of southeastern Idaho and western....H, Bull, vol v, No 1, pp 117–123
Laramie group of....H, Bull, vol v, No 2, pp 195–200
Laramie Hills, physical aspects of....K, II, pp 4–7

Wyoming, Laramie Plains, agriculture on H, Ann 4, pp 220–223
Laramie region, geology of LOR, 1868, pp 235–236; H, Ann 2, pp 81–83; H, Ann 4, pp 121–133; K, II, pp 73–93
Lead Creek, geology near H, Ann 11, p 527
Lignitic formation in, distribution and thickness of H, Ann 6, pp 327–339, 367–368
of Colorado, eastern, and portions of H, Bull, vol I, ser 2, No 5, pp 401–411
locusts in H, Uncl 14, pp 97–99, 156–157
mammals collected in, list of H, Ann 4, pp 461–462
collected in Utah, Idaho, and H, Ann 6, pp 661–669
Marsh Creek, geology near H, Ann 11, pp 528–529
Medicine Bow Range, Archean rocks of K, I, pp 28–36; K, II, pp 94–111
Paleozoic rocks of K, I, p 136
Medicine Bow River, geology of valley of K, II, pp 142–143
Meridian Ridge, geology of H, Ann 11, pp 536–537
Meridional Valley, geology of H, Ann 11, pp 539–540
meteorological observations in H, Ann 4, pp 488–501
minerals of Sweetwater district H, Ann 11, pp 157–158
Mount Leidy, geology near H, Ann 11, pp 456–461
New Fork of Green River, geology near H, Ann 11, p 526
North Platte River, geology of K, II, pp 152–155
Oyster Ridge, Cretaceous uplift of K, II, pp 250–253
geology of H, Ann 11, pp 533–534
Park Range, Archean rocks of K, I, pp 36–42
Pass Creek, geology near LOR, 1868, pp 246–247; H, Ann 2, pp 93–94
Piney Creek, geology near H, Ann 11, p 529
plants collected in Colorado and, catalogue of H, Ann 4, pp 472–483
collected in Idaho, Utah, Montana, and H, Ann 6, pp 747–792
Rawlings Peak, geology near K, II, pp 160–164
Paleozoic rocks of K, I, pp 136–138
Rawlings Springs, geology near LOR, 1868, pp 249–250; H, Ann 2, pp 96–97
Red Creek, geology near H, Ann 4, pp 66–68
roads in Sweetwater district H, Ann 11, pp 57–58
St. Marys, geology near LOR, 1868, pp 248–249; H, Ann 2, pp 95–96
Salt River, geology near H, Ann 11, pp 551–556
Salt River Range, geology of H, Ann 11, pp 545–551
Savory Plateau region, geology of K, II, pp 164–166
Sepulchre Mountain, geology of H, Ann 12, pp 15–19
Sickle Creek, geology of H, Ann 11, p 546
Slate Creek, geology near H, Ann 11, pp 531–532
Smiths Fork, geology near H, Ann, 11, pp 577–580
Smoking Creek, geology near H, Ann 11, p 554
Snake River, geology along H, Ann 12, I, pp 196–201
Grand Canyon of, geology of H, Ann 11, pp 437–438
Snake River Range, geology of H, Ann 11, pp 424–425
South Pass, geology between Fort Bridger and H, Ann 4, pp 35–41
geology between Fort Fetterman and H, Ann 4, pp 24–35
Sublette Creek, geology near H, Ann 11, p 576
Sublette Range, geology of H, Ann 11, pp 580–581
Sweetwater region, agriculture in H, Ann 4, pp 223–226
geology of H, Ann 11, pp 3–158
Sweetwater River, geology near H, Ann 4, pp 29–34
Tertiary of, fossil vertebrates of H, Ann 5, pp 353–372

Wyoming, Teton Range, geology of H, Ann 11, pp 411–424, 432–438; H, Ann 6, pp 214–223
Teton River, course and character of..... LOR, 1868, p 227; H, Ann 2, p 73
Thompson Plateau, geology of H, Ann 11, pp 538–539
Togwotee Pass, geology near..... H, Ann 11, pp 471–473
triangulation in H, Ann 11, pp 651–672
Twin Creek, geology near H, Ann 11, pp 575–576
Two Ocean Pass, discussion of H, Bull, vol v, No 2, pp 223–225
Uinta Mountains, geology of H, Ann 4, pp 41–54
vertebrata, fossil, of the Eocene of..... H, Ann 6, pp 543–649
Warm Springs Creek, geology near..... H, Ann 12, I, pp 235–237
Washakie Basin, geology of K, II, pp 207–222
Washburn Range, geology of..... H, Ann 12, II, pp 32–35
topographic features of..... H, Ann 12, II, p 478
Wind River Basin, geology of..... H, Ann 12, I, pp 255–269
Wind River district, geology of H, Ann 12, I, pp 175–269
Wind River Range, geology of..... H, Ann 11, pp 64–94, 524–525; H, Ann 12, I, pp 228–254
strata exposed in..... H, Ann 6, pp 19–21
Wyoming Range, geology of ..H, Ann 11, pp 540–542; H, Ann 12, I, pp 178–201
topographic features of H, Ann 11, pp 693–694
Yellowstone River, course and character of...LOR, 1868, p 226; H, Ann 2, p 72
topography near..... H, Ann 12, II, pp 475–478
Yellowstone Valley, geology of..... H, Ann 12, II, pp 35–42
(See, also, Fortieth Parallel region; Yellowstone Park.)
Wyoming conglomerate in Wyoming H, Ann 11, p 133; K, II, pp 71–72
Wyoming Range, Wyoming, geology of H, Ann 11, pp 540–542; H, Ann 12, I, pp 178–201
topographic features of H, Ann 11, pp 693–694
Yakutat language, vocabulary of..... Eth, I, pp 121–133
(See, also, Ethnology and archæology.)
Yampa Plateau, Colorado, geology of K, II, pp 282–286
structure of UM, pp 202–203
Yampa River, Colorado, geology of valley of upper K, II, pp 181–187
Yampa River district, Colorado, topographic report on..... H, Ann 10, pp 359–378
Yampa Valley and Browns Park, Colorado, geology of K, II, pp 222–225
Yarrow (H. C.), notes upon geographical distribution and variation with regard to the zoology of the Western United States as relates more particularly to mammals and birds..... W, V, pp 23–34
notice of a ruined pueblo and an ancient burial place in the valley of the Rio Chama..... W, VII, pp 362–365
pueblo of San Juan W, VII, p 331
pueblo of Taos..... W, VII, pp 327–330
report on ethnological examinations in the vicinity of Santa Barbara, California W, 1876, pp 312–321
report upon ethnological researches near Santa Barbara, California..... W, VII, pp 32–47
report upon the collections of batrachians and reptiles made in portions of Nevada, Utah, California, Colorado, New Mexico, and Arizona, 1871–1874..... W, V, pp 509–584
report upon the collections of terrestrial and fluviatile Mollusca made in portions of Colorado, Utah, New Mexico, and Arizona, 1872–1874..... W, V, pp 923–954
work in charge of..W, 1872, pp 52–55; W, 1874, pp 107–110; W, 1875, pp 139–149

Yarrow (H. C.) and Cope (E. D.), report upon the collections of fishes made in portions of Nevada, Utah, California, Colorado, New Mexico, and Arizona, 1871–1874.....W, v, pp 635–703
Yarrow (H. C.) and Coues (E.), notes on the herpetology of Dakota and Montana.....H, Bull, vol IV, No 1, pp 259–291
report upon the collections of mammals made in portions of Nevada, Utah, California, Colorado, New Mexico, and Arizona, 1871–1874....W, v, pp 35–129
Yarrow (H. C.) and Henshaw (H. W.), report upon and list of birds collected in Utah and Nevada in 1872.....W, Uncl 4, pp 5–33
report upon the reptiles and batrachians collected in 1875–1877 in California, Arizona, and Nevada.....W, 1878, pp 206–226
Yarrow (H. C.) and Severance (M. S.), notes upon human crania and skeletons collected by the expeditions of 1872–1874 ...W, VII, pp 391–397
Yellow Pine district, Nevada, notes on.....W, 1871, pp 52–53
Yellowstone Park, access to, by railroads, means of.....H, Ann 6, pp 92–95
climate of.....H, Ann 12, II, pp 486–488
elevations in.....H, Ann 12, II, pp 457–463
forests, fossil, of.....H, Bull, vol V, No 1, pp 125–132
geology of H, Ann 6, pp 120–167; H, Ann 12, II, pp 1–64
geysers of H, Ann 5, pp 104–126; H, Ann 6, pp 138–140, 144–158, 234–242, 244–247
law creating, passage of H, Ann 5, pp 162–165
routes for roads from settlements to H, Ann 6, pp 802–807
springs, thermal, in.....H, Ann 6, pp 122–125, 128–130, 135–143, 176–178; H, Ann 12, II, pp 63–453
Yellowstone region, meteorology of.....H, Ann 5, pp 501–524
Yellowstone River, course and character of.....LOR, 1868, p 226; H, Ann 2, p 72
geological sections near headwaters of, notes on..H, Bull, vol II, No 3, pp 197–209
geology near.....H, Ann 5, pp 51–63, 81–92
topography near H, Ann 12, II, pp 475–478
Yellowstone Valley, geology of.....H, Ann 5, pp 173–182; H, Ann 6, pp 28–44, 49–52, 119–140; H, Ann 12, II, pp 35–42
Yellowstone and Missouri rivers, geology about headwaters of, sketch of..H, Uncl 16, pp 21–29
Young (W.), report of W, 1878, pp 120–122; W, 1879, pp 228, 237
Zapus hudsonius, account, critical, descriptive, and historical of.....H, Bull, vol I, ser 2, No 5, pp 254–262
(See, also, Vertebrates.)
Zeolite, analysis of, from New Mexico, Abiquiu.....W, 1875, p 101
Zircon, analysis of, from Colorado H, Ann 10, pp 153, 154
Zirkel (F.), microscopical petrography of Fortieth Parallel region K, VI
Zoology of Western United States, geographical distribution and variation in..W, v, pp 23–34
(See, also, Vertebrates; Invertebrates.)
Zuñi, pueblo of, cachina (a dance) at.....W, VII, pp 332–336
(See, also, Ethnology and archæology.)
Zygænidæ and Bombycidæ collected in portions of California and Arizona....W, v, pp 795–802
(See, also, Invertebrates.)

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PUBLICATIONS OF UNITED STATES GEOLOGICAL SURVEY.

[Bulletin No. 222.]

The serial publications of the United States Geological Survey consist of (1) Annual Reports, (2) Monographs, (3) Professional Papers, (4) Bulletins, (5) Mineral Resources, (6) Water-Supply and Irrigation Papers, (7) Topographic Atlas of United States—folios and separate sheets thereof, (8) Geologic Atlas of United States—folios thereof. The classes numbered 2, 7, and 8 are sold at cost of publication; the others are distributed free. A circular giving complete lists may be had on application.

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